AMATEUR RADIO

VOL. 51, No. 10, OCTOBER 1983

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JOURNAL OF THE WIRELESS INSTITUTE OF AUSTRALIA

Golden Jubilee Issue 1933–1983

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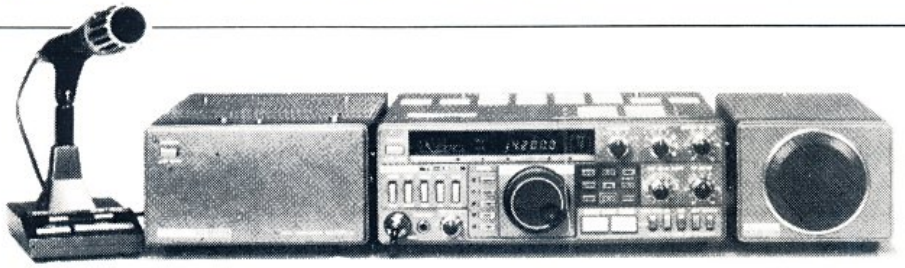

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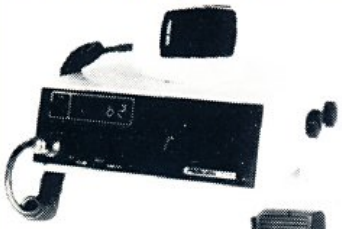

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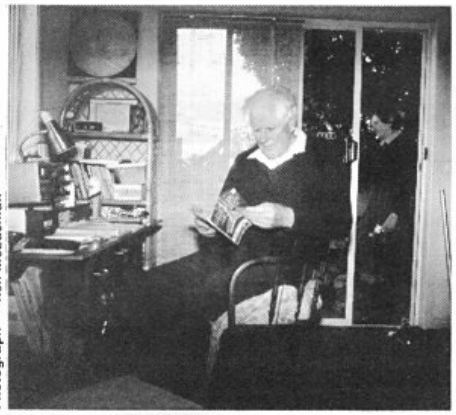
AMATEUR RADIO



Photograph — Ken McLachlan

Gavin VK3YK, WIA Secretary in 1933, peruses the first copy of AR as he ponders the advances of AR and the hobby over the past 50 years.

ARTICLES

DEPARTMENTS

DEADLINE

All copy for December AR must REACH PO Box 300, Caulfield South, 3162 no later than 25th October. Also please note the early deadline for January 1984 is the 18th November.

Enquiries and material to:
The Editor
PO Box 300, Caulfield South Vic. 3162

Material should be sent direct to **PO Box 300, Caulfield South Vic., 3162,** by the **25th of the second month preceding publication. Phone: (03) 528 5962.** Hamads should be sent direct to the same address.
Acknowledgement may not be made unless specially requested. All important items should be sent by certified mail. The editor reserves the right to edit all material, including Letters to the Editor and Hamads, and reserves the right to refuse acceptance of any material, without specifying a reason.

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CHG-43	$110	+ $4 Frt
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CFL-260	$110	+ $4 Frt
CFL-230	$110	+ $4 Frt
NRD-515	$1795	+ $35 Frt
NSD-515	$2440	+ $35 Frt
NVA-515	$99	+ $9 Frt
NCM-515	$210	+ $10 Frt
NDH-518	$350	+ $9 Frt
NBD-515	$299	+ $15 Frt
CFG-515	$350	+ $15 Frt
KENWOOD	POA	
YAESU	POA	
ICOM	POA	
DRAKE		
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R7A		+ $40 Frt
SL 300	$110	+ $4 Post
SL 400	$110	+ $4 Post
SL 18000	$110	+ $4 Post
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7073 DM	$59	+ $4 Post
TR7/R7A MANUAL	$69	+ $4 Post
MS7	$120	+ $4 Post
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AZDEN		
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SDX-316	$35	+ $4 Post
BP500F	$35	+ $4 Post
PCS-4000	$475	+ $10 Post
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PCS-2800	POA	+ $9 Post
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ASTRO-C	POA	
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CWR-610E	$299	+ $10 Frt
CWR-675E	$950	
CWR-675EP	$1100	
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DS3100/MS03100	$4500	+ $35 Frt
CT2200	$1700	+ $30 Frt
KB2100	$315	+ $20 Frt
RS2100	$599	
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ASP	$239	+ $9 Post
FL-3	$299	+ $9 Post
AD-270	$139	+ $9 Post
AD-370	$199	+ $10 Frt
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HC-2000	$450	+ $10 Post
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2M4-40P	$289	+ $9 Post
6M10-120P	$365	+ $9 Post
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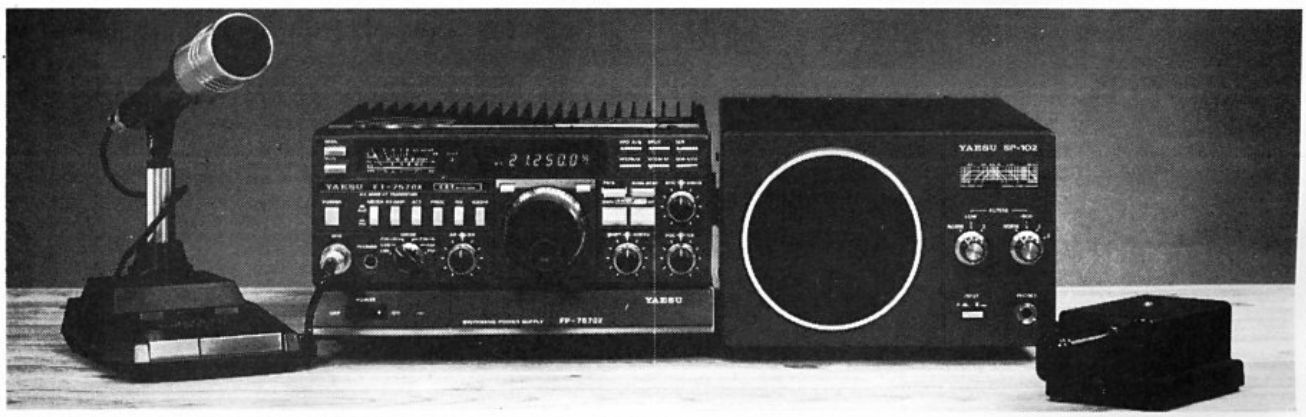

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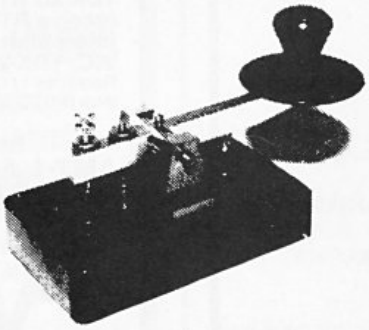

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CANBERRA ACT 2600

22 AUG 1983

Mr B. Bathols
Federal President
Wireless Institute of
Australia
PO Box 300
CAULFIELD SOUTH VIC 3162

Dear Mr Bathols

It is with great pleasure that I congratulate the Wireless Institute of Australia on the Golden Anniversary of the Institute's magazine - Amateur Radio.

Since its inception, the magazine has contributed significantly to the technical and social needs of WIA members, and indeed, to the Amateur Service as a whole. I believe that it must be a matter of considerable pride to the WIA that the high standards initially set by this publication have been so consistently maintained over such a long period of time.

The magazine has always most generously provided a forum for dissemination of Government policies and I would like to take this opportunity of expressing my appreciation of the willingness with which the WIA has provided this service to the advantage of both my Department and the Amateur community. Since becoming Minister for Communications I have been particularly impressed to observe the cordial relationship which exists between the Institute and my Department's Radio Frequency Management Division.

It is indeed no mean feat for a publication of this nature to have provided the service it does so well to its members for half a century. I wish the magazine well in its role as a continuing source of information for the Australian Amateur and trust that its next half century will be as successful as that of the past fifty years.

Yours sincerely

Michael Duffy

Michael Duffy

a word from your EDITOR

This is the Golden Jubilee issue of Amateur Radio magazine. Amateur Radio magazine has now been published for fifty years.

Many changes have taken place over the years, changes in both the magazine and also in our hobby of amateur radio.

Whilst the technological changes have been great, the basic aims of the amateur service have remained the same. The technological changes have opened up many new areas of interest to the enthusiast.

Amateur Radio magazine production has evolved and this magazine is now the result of these changes. The technology of magazine production has moved forward at a similar rate as our technology advances and in many instances uses the same technology advances that have given us the amateur radio equipment of today.

Both the hobby of amateur radio and Amateur Radio magazine depend on the work of the enthusiasts who carry on with the basic aims of the Amateur Radio Service.

Happy Jubilee AR — and long may you continue to serve the members.

Gil Sones, VK3AUI

AR

PRESIDENTIAL COMMENT

WITH THE PRESIDENT

It is good to receive some correspondence from members in respect of some of our editorials, it just goes to prove that there *are* some readers out there taking an interest in what is going on.

A letter from Syd VK3ASC suggests my calculations of escalated costs of amateur equipment may have been incorrect in respect of the thirty percent tariff duty. I initially stated prices will escalate to forty to forty five percent above current retail prices (see August AR, P 8). This figure was arrived at during informal discussions with some of the importers, however, on paper anyway, Syd is certainly correct.

Assuming all stages from importers, landed costs through to wholesale and retail distribution carry a mark up profit margin of twenty five percent, then the end user price should only be a twenty seven to thirty percent increase on current retail prices. This is still far too much, yet if my information is correct, certain 'hidden' costs could be added to the final selling price.

Perhaps the trade should take a warning, amateurs are prepared to be hit over the head, and pay their fair dues, but stamping us into the ground at the same time, could be just the straw to break the camel's back.

RD CONTEST

The VK5 division has raised a query from a member in respect of anomalies with the 1983 RD Contest rules. The major point in question was the rule change to exclude an operator running two separate stations simultaneously, that is, using his/her own callsign for one station, and a club callsign for the other.

I believe Reg Dwyer, our contest manager, has acted quite correctly with this one, by *not* allowing credit to be given in such cases.

Fair crack of the whip fellows, that is a case of wanting your cake and eating it too!

If operators are desirous of such activity, there is no objection to splitting your time between the two callsigns. Say, four hours with the club callsign, then four hours with your own, but not both together. What do others think?

GENERAL

Members might like to know that there is quite a lot of activity going on behind the scenes at the moment (as is always!).

After going through panic stations with the twenty eight percent tariff duty increase, which by the way is not settled yet, but we are working on it with some light at the end of the tunnel, we still have the new Radio Communications Bill to contend with. We are hopeful the Bill will have been tabled in Parliament by the time this item appears in print.

Much has been said about the Bill in this and other publications. Providing it gets through the politicians without too much alteration from its final draft form, we can expect far greater activity in respect of the policing of some illegal operations. Sales of equipment to unlicenced persons are being tightened up, and a general cleaning up of some of the anomalies associated with the old W and T Act. In many cases, the Bill will benefit the Amateur Service as a whole, but the odd individual who doesn't toe the line now, is going to discover that the Department actually does have some teeth, and is prepared to use them.

SCANNERS

A hot issue at the moment revolves around scanning receivers. Various points have been published in the daily media. We are all a bit in the dark on this, as on one hand there is extreme pressure from law enforcement agencies and Telecom on the Department to 'do something', yet on the other hand, there are countless thousands of scanning receivers in use by the general public.

It puts the Department into quite a dilemma, doesn't it?

It seems a pity that the horse is now eight furlongs down the straight, yet now we discover the starting gates are to be closed.

This tiger will attack if its tail is pulled hard enough, so how does one regulate a system which is virtually unregulatable? The short answer is — you can't!

Our ancient laws and customs regulations are not keeping pace with today's technology. We would like to suggest that some measure of protection could be given to those requiring privacy of radio communications, by installing scrambler systems immediately. Do the job properly too, and outlaw *today* import of scrambler detection devices, and put them under strict Government control, *before* some enterprising company starts to bring them into this country by the truck load.

The place to stop it is at the import stage, not after it has been landed and sold.

Ban publication of circuits of these devices in the name of National Security.

These types of measures must be taken immediately. There are too many examples of imported electronic equipment coming into Australia first, before the consequences of some have been realised.

Think first, then act, so that we amateurs can get down to running our hobby, as it should be, without political intervention.

HAPPY BIRTHDAY AR

This month starts the beginning of the second Golden Jubilee in the production of Amateur Radio magazine.

The first issue of Amateur Radio was published in October 1933. Please see Jim Linton's special article printed elsewhere in this issue.

Perhaps most of our younger amateurs will still be around in October 2033, to see the Centenary issue.

How rapidly we have expanded in the past fifty years, and each day brings a new development in technology.

Wouldn't it make an interesting prophecy to look into the future, to see what develops?

I guess myself and many others like me will be able to look down from the Ethereal Shack, perhaps we might say — "I still reckon tubes do a better job!".

Happy 50th, AR.

Bruce R Bathols, VK3UV
WIA FEDERAL PRESIDENT

AR

WIA NEWS

LOG BOOK KEEPING

As a result of negotiations between the Institute and the Department of Communications concerning log keeping requirements for amateurs.

The Department has advised the Institute that in accordance with the provisions of Wireless Telegraphy Regulation 31 (1), the following changes to the conditions governing log keeping by Australian amateur stations have been authorised:

Log keeping shall be optional, provided (a) every amateur station shall have a log book available in which to record distress and emergency traffic. In the case of a network carrying emergency traffic, a log shall be kept by the control station. (b) a log shall be kept by an amateur if requested to do so by an officer of the Department of Communications.

It is important to note that club stations are still required to maintain a log of all transmissions in accordance with the format detailed in Para 6.11 and Appendix 15 of the Amateur Operators Handbook.

Suitable log books are obtainable from your division or Magpubs.

PHONE PATCHING

Mr Peter Thomas of Telecom Australia has released guidelines on phone patching in this country, which includes the amateur service.

Mr Thomas stated that Australian radio amateurs would be able to use approved phone patch equipment that was wired in place by Telecom.

Further details of this arrangement may be obtained from Telecom Headquarters and November AR.

GOLDEN JUBILEE

Jim Linton, VK3PC
4 Ansett Court, Forest Hill, Vic 3131

The official journal of the Wireless Institute of Australia — Amateur Radio — was born fifty years ago this month. It was fathered by forward-thinking WIA members who nursed it through its pre-World War 2 childhood.

On the outbreak of hostilities AR was saved from death by another group of radio amateurs which nurtured the magazine through most difficult times.

It survived and soon after the war reached adolescence, blossomed into adulthood, weathered the times of change and in 1983 has attained a maturity that should see it around for as long as the hobby of amateur radio exists.

In researching this article it became clear that one man can be rightly described as "The Father of AR" — Harry Kinnear (ex VK3KN now VK4AVJ).

Later in this biography of AR Harry's own recollections of the early days are reproduced in his words — but now let us have a look at what others have to say about the magazine.

HOW DID IT ALL BEGIN?

Bob Anderson VK3WY, Assistant VK3 Divisional Secretary 1930-33 and Secretary 1933-47, remembers that there used to be a roneoed publication of a few pages put out by Cedric Searl, late VK3ARX. Bob said this publication was done in a humourous style and in his opinion it could not really be called a forerunner of AR. *"When it stopped being produced it gave a glimmer of the idea that a magazine was desirable. A magazine was talked about at meetings a number of times."*

He said those on the VK3 Divisional Council gave it much thought and a lot of hard work was carried out by Harry Kinnear, Vaughan Marshall, Bill Gronow and himself.

Bob said: *"The financial aspect gave us a worry. Various ideas and thoughts were pooled and we worked out that it could be done.*

"The main theme in the back of our minds was that the ARRL was centred around QST, the ARRL journal. It was felt we should do the same thing in Australia."

He said a magazine was seen as desirable for its Public Relations value, *"We thought it would help keep the Institute together and get publicity for the Institute.*

"Over the years, prior to 1933, it was felt that amateur radio in Australia could do with Public Relations.

"There were some stories in the daily papers, but the hobby was not generally taken seriously.

"There was a weekly column in Listener In about amateur radio. But it was thought a magazine would do more for the hobby and bring other amateurs into the Institute."*

COMMITTEE MEETS TO DESIGN THE COVER

The first cover design was decided at a meeting in the home of Bill Sones who was involved in WIA activites and was a Vice-President on the Victorian Divisional Council.

Those who attended this historic meeting in 1933 were Bill Gronow VK3WG and Vaughan Marshall VK3UK.

Bill Gronow, VK3 Divisional President 1935-41, Federal President 1939, 1947-50 and 1954, recently recalled: *"Bill Sones was not an amateur, he used to write a page on shortwave listening matters for Listener In.*

"He was interested in the setting up of the magazine and had quite a bit to do with the Council discussions on it, but I don't think he took any actual part in its preparation because of his connections with Listener In."

The magazine committee for the first edition was editor Harry Kinnear, sub-editors Bill Gronow, and Vaughan Marshall. When Bill Sones stepped out of AR affairs Jim Marsland, late VK3NY, joined as committee secretary.

Bill Gronow said: *"Harry and I did most of the advertising selling — but it got too big for us and we couldn't cope.*

"When printing of the magazine was transferred from Wilke & Co to Elsum Printing Company, in 1934, Elsum took over the advertising selling."

Bill Gronow became editor in 1936, a position he held until January 1941. Enlistment in the RAAF of most of the magazine committee and with the Victorian Division unable to continue publication the February 1941 issue did not appear.

A new committee was formed and AR was resuscitated with a war-time hand duplicated issue until September 1945.

The war-time committee included Tom Hogan as editor, Jim Marsland and Herb Stevens VK3JO, VK3 Divisional President 1941-45.

It was the job of Herb to have the names and addresses written on the AR wrappers and bundle them up for the divisions to distribute.

Reaching back into his memory he recollects: *"The first issue during the war-time was the worst, none of us had been completely familiar with a duplicator.*

"We had to sort out the good copies from the spoilt ones — believe me there were plenty of spoils.

"It was quite a time-consuming problem. Some of the committee had a conference with the representative of the duplicator firm to see if things were being done right."

Anyone who has used the type of duplicator used by the committee knows all too well that spoils are a fact of life.

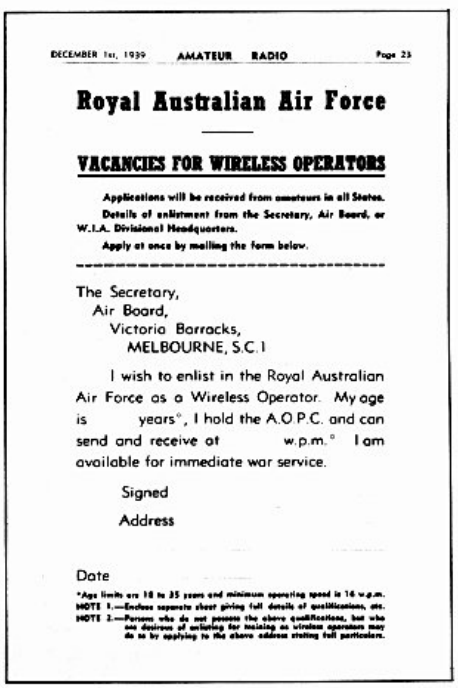
Herb said everyone involved with the war-time AR felt if was important to keep the magazine going.

He said: *"The magazine was particularly important during war-time when membership dwindled, people were away at war, and we saw it as a way of keeping in touch.*

"We couldn't communicate by radio. A nucleus kept it going with the feeling that at the end of the war there would be renewed interest and with a magazine helping to get things going after the war.

"It let those overseas know that the WIA continued during the war. Those in the services who received it appreciated notes about fellow amateurs in the services and what they were doing.

"One had to be careful because of censorship, and not say exactly whereabouts overseas they were."



DECEMBER 1st, 1939 AMATEUR RADIO Page 23

Royal Australian Air Force

VACANCIES FOR WIRELESS OPERATORS

Applications will be received from amateurs in all States. Details of enlistment from the Secretary, Air Board, or W.I.A. Divisional Headquarters. Apply at once by mailing the form below.

The Secretary,
Air Board,
Victoria Barracks,
MELBOURNE, S.C.1

I wish to enlist in the Royal Australian Air Force as a Wireless Operator. My age is years*, I hold the A.O.P.C. and can send and receive at w.p.m.* I am available for immediate war service.

Signed

Address

Date

*Age limits are 18 to 35 years and minimum operating speed is 16 w.p.m.
NOTE 1.—Enclose separate sheet giving full details of qualifications, etc.
NOTE 2.—Persons who do not possess the above qualifications, but who are desirous of enlisting for training as wireless operators may do so by applying to the above address stating full particulars.

The magazine kept the spirit of the hobby alive, despite the officially imposed radio silence, and united amateurs in a determination to get back on air at the end of the war.

Just try and imagine printing about 600 copies of AR, wrapping, addressing and posting them, all by hand.

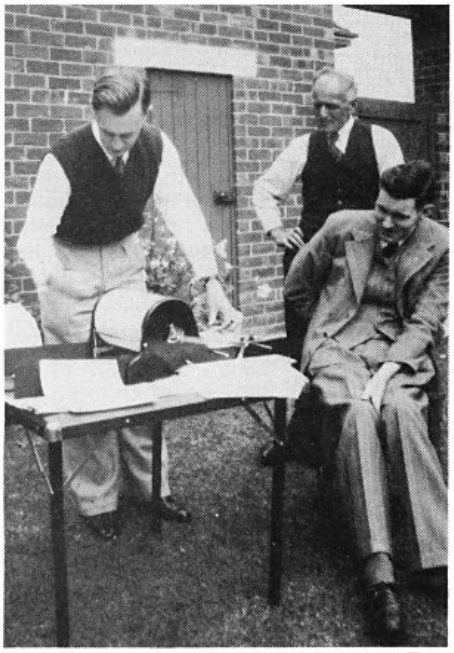
The war-time issues had up to sixteen pages and to fill the pages must have been no easy task — remember that there were no active radio amateurs because their equipment was compulsorily put into sealed boxes.

The widow of Jim Marsland, Mrs Elva Marsland remembers vividly the production of the war-time AR on a hand-operated duplicator at her home in Camberwell.

She said her late husband and the others took two consecutive Saturdays a month turning out the magazine pages.

During that four and a half year period Mrs Marsland was the tea-lady for the "printing office" and assisted in the collation of pages.

Mrs Marsland said the magazine was sent free to servicemen who were radio amateurs before the war and appreciation for this was received from the men stationed overseas.



L to R: Jim Marsland, Bert Vertigan and Tom Hogan prepare another edition of AR during the war years.

Jim Marsland's involvement with AR covered a life-time of positions including editor and he also served as the secretary of the WIA's Federal Executive.

In tribute to him Bill Gronow said: *"Jim was undoubtedly one of the most loyal and hardworking members of the war-time committee.*

"The fellars did a fine job in keeping the magazine going. Tom Hogan, editor, was a marvellous person, confined to a wheelchair — always a cheerful bloke.

"I imagine getting the magazine out at that time would not have been easy — to get enough copy for one thing."

Bill said he believed having AR going was a great help after the war, a concept of what was wanted, and all the fellars coming back "full of vim and vigour" to get back to normal.

Wartime Production Crew. L to R: Herb Stevens, Bert Vertigan, Elva Marsland, Jim Marsland, Charlie Quinn and Tom Hogan.

"The hobby was a bit of a dream for many servicemen. I think most of us had built about fifty transmitters in our own minds as a sort of a sideline if we had time to think about it."

Bill Gronow has some firm views on the worth and role of AR. He said: *"The magazine is essential to hold the WIA together. Without it you would have a very disjointed Wireless Institute because of the different states and areas.*

"It's not all that easy to hold a big show together unless you've got communication — the magazine provides it.

"Today's amateurs owe a lot to AR — it bound them together, co-ordinated the activities, and was the only way to inform both the active and inactive amateur.

"I would say that the Institute could cut out a lot of things — but not AR — it's vital."

It was October 1945 when AR resumed normal issues and the advertisers who previously supported the magazine gave their support again.

The basic format and content changed little over the following years, but every issue had something for everyone.

Up until February 1972 the Victorian Division of the WIA produced the magazine and for reasons including the financial burden it imposed, AR was handed over to the Federal Office.

The person who would have had the longest direct association with AR is Ron Higginbotham VK3RN.

He helped with the war-time issues before joining the army. After the war he renewed his association by doing the linotyping for the magazine from 1947-49, being a lino operator at the printing firm — The Richmond Chronicle.

In mid-1949 The Richmond Chronicle took over the printing of the magazine with Ron doing the work.

He was a member of the WIA publications committee 1947-64 and The Richmond Chronicle continued printing AR up until March 1973.

Ron said the war-time AR ensured that the magazine returned to normal printing after the war and that was what those involved with the war issues were hoping.

He is in a unique position due to his long association with AR to be able to comment with authority on its troubles and development over the years.

Ron said it is an essential item to have a house journal, particularly these days because there are so many facets of the hobby.

He said: *"Finance was one difficulty and the Federal Convention wouldn't give more money to help with AR production.*

"There were many requests over the years from members to improve the paper quality from the newsprint it was printed on.

"Advertising revenue increased allowing the quality of paper to progressively be improved to an art quality."

First came the war surplus disposals gear which was extremely useful to radio amateurs and of a quality and price that could only have been dreamed of before the war.

There were transmitters, receivers, transceivers, ATU's, and a wide range of bits and pieces easily adapted for amateur purposes.

Then later there were commercially made items aimed at radio amateurs such as the Geloso VFO's, then Geloso receivers and transmitters.

The real "black-box" age started with the Swan and Galaxy transceivers that appeared in various models. Eddystone receivers, Johnson Matchbox ATU's, Johnson transceivers and then came the now familiar Yaesu transceivers.

Not only AR revenue from advertising was helped by the "black-boxes" according to Ron, but those amateurs off the air had their interest in the hobby "re-kindled" after reading about the commercial gear.

However the "black-boxes" had an adverse effect on AR with a downturn in technical articles because amateurs were just not building things.

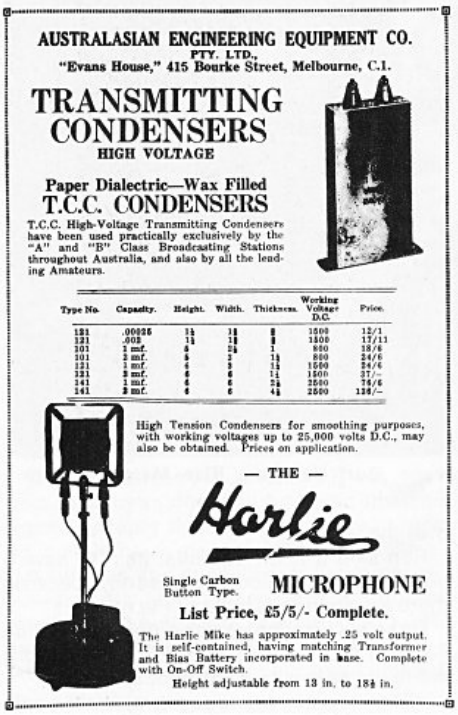
Ron is a WIA Life Member, and on his retirement from the Publications Committee in 1964 the committee decided, in recognition of his long service, to re-name the Editor's Award for the best technical article — The Ron Higginbotham Award.

The scope of this award has changed since to reflect a downturn in the number of technical articles being supplied to the magazine.

THE MAGAZINE IN THE 1980s

Since 1972 the magazine has been under the full control of the WIA Federal Body.

Those who have kept a close watch on our



Typical AR Advertising of the 1930 era.

magazine would have noticed that in 1982 it received a facelift and generally widened its news content.

This "maturing" process was under the editorship of Bruce Bathols VK3UV, Editor 1977-82.

An eight member publications committee meets once a month to review the last edition of the magazine and plan future articles including those on technical topics and equipment reviews. There is a paid contractor for production and a paid advertising representative.

Bruce said he saw the editor's job as "sole control and responsibility" for the magazine.

"The editor ensures what goes into the magazine relates to Institute policy."

Bruce said responsibility for individual columns is with the contributing editors on an "honour system".

However it was the editor's role to make sure those regular contributors were aware of policy and any borderline cases which appear in their copy is drawn to their attention.

He said the purpose of the magazine was: *"Basically a forum for members, an avenue to publish members thoughts and their experiments — and Institute policy".*

He explained the part advertising plays. Without any advertising the section of the WIA membership subscription which pays for AR production covers forty eight pages.

Advertising revenue increases the pages by ten to twelve, and pays for the extra production costs and remuneration for the advertising salesman.

The editor keeps an eye on the advertising — bearing in mind consumer or Trade Practice Regulations, which may be in force.

Bruce said: *"We would never knowingly advertise anything illegal."*

WIA members have also been quick to react when advertisers have placed advertisements for CB radio and have written to the editor with their complaints.

Obviously those who put their complaints in writing feel that AR magazine is only for the hobby of amateur radio.

The letters to the editor help the editor keep in touch with readers' views and their worthy ideas are reflected in the magazine.

Bruce said the magazine's most popular section is the Hamads with many WIA members reading them before looking at other pages.

The VHF Notes, How's DX column, and other regular pages also have their following, but as is usual with publications the editorial comment would be the last or least read.

The magazine has an important role that most WIA members are not aware of —getting the message into the hands of non-members.

AR is sent on a reciprocal basis to the radio societies and bodies in about forty countries, including NZART, RGSB and ARRL.

It also, within Australia, reaches into government departments and private enterprises in the communications field. Libraries and technical schools also subscribe to the Institute's journal.

THE FATHER OF AMATEUR RADIO MAGAZINE

On researching this article it was the consensus among those involved in the past history of the magazine that one person could rightly be described as the father of the Institute's journal.

Harry Kinnear, VK4AVJ, VK3 President 1934-35, 1945-47, Federal Vice-President 1953, was AR editor for 1933-36.

This month he is given the highest recognition available from the WIA — HONOURARY LIFE MEMBERSHIP.

The Victorian Division of the Institute made Mr Kinnear a Life Member in recognition of his outstanding service to amateur radio, being a past Divisional President and the far-sighted attitude he had in pushing for an Institute journal.

His contemporaries have described him as the "driving force" behind getting the magazine going.

The name "Amateur Radio" for the magazine was Harry's own idea and he said recently that although it sounded corny — it was most appropriate.

He recalls in his own words those early days of the magazine:

Dear Jim,

Many thanks for your letter regarding your project of writing about the history of "AR".

My Amateur Licence No 944 was gained in 1932. I had been a member of the WIA Victorian Division for a year or so prior to that. In the schooling days at Kelvin Hall, I think, I met some very good mates and after getting on the air became interested in the administrative side of the Institute.

Somehow I found myself a member of the VK3 Council and early in 1933 promoted the idea of having a house magazine. Of course I found myself with the job of getting it going.

We had a bunch of magazine fellows who were very enthusiastic. The writing of editorials was easy at first and shared by the team.

The gleaning of technical information was a lot harder. It was essential to have a good stock-pile of such things.

Max Howden, Geo Glover, Bill Gronow,, Vaughan Marshall and many others helped me to keep well supplied. Sometimes it was necessary at the regular monthly meetings to thump the table in an exhortational technique.

Early on the RAAF Wireless Reserve came in and occupied a number of pages. The original format measured about 8" x 5" — we could not afford photo's in those days and even the cost of line-blocks was tough but essential.

Advertising was mainly my job as I had opportunities during my travelling around the city to make contacts. Max Howden ran a regular advertisement for crystals which stated, inter alia, "All Xtals tested to a Pentode load".

Advertising 1960 style.

AWA were regulars — and very generous with their donations of equipment, particularly hi-voltage triodes. These were of course prizes in the various competitions we ran.

One hardware firm, Thos Warburton, at our request stocked and advertised hard-drawn "stretchless" copper antenna wire, and next door to them was Warburton Franki, Bill Gronow was in charge of their Weston Meter sales. His company Zephyr Products was later to be a very good advertiser.

I had the honour of ultimately being President of VK3 Division. We had our meetings in the large lecture room at Melbourne Tech, with full houses quite frequently and plenty of heckling from the back benches.

How I would like to be back on the air again for a natter on old times. But to go on the air in these modern times and get involved in technical discussions, as we used to, would be a real hassle.

I wish you every success with the AR fifty years story.

73
Harry Kinnear

** Listener In was a weekly paper that was devoted to wireless in Victoria.*

ACKNOWLEDGEMENTS: The following people have helped the author with this article — Bob Anderson, Bruce Bathols, Peter Dodd, Gavin Douglas, Bill Gronow, Ron Higginbotham, Max Hull, Harry Kinnear, Vaughan Marshall, Mrs Elva Marsland, Ken McLachlan, Herb Stevens, Barry Wilton.

AR

PANORAMIC ADAPTOR — A Weekend Project No. 1

Ivan Huser, VK5QV
7 Bond Street, Mount Gambier, SA 5290

For some years I have used a panoramic adaptor and a 'home-brew' cathode-ray-oscilloscope originally with a FT200 and currently with a FT101Z.
A panoramic adaptor converts a standard cathode-ray-oscilloscope to a basic spectrum analyser to sweep a given frequency range above and below that to which the receiver is tuned. Each signal within the sweep range will produce a pip on the screen and if correctly adjusted, will enable the operator to determine quite accurately (within a few kHz) the areas of high activity or perhaps a clear frequency to which it may be desirable to QSY. The height of the pip will also give an indication of the strength of the signal.

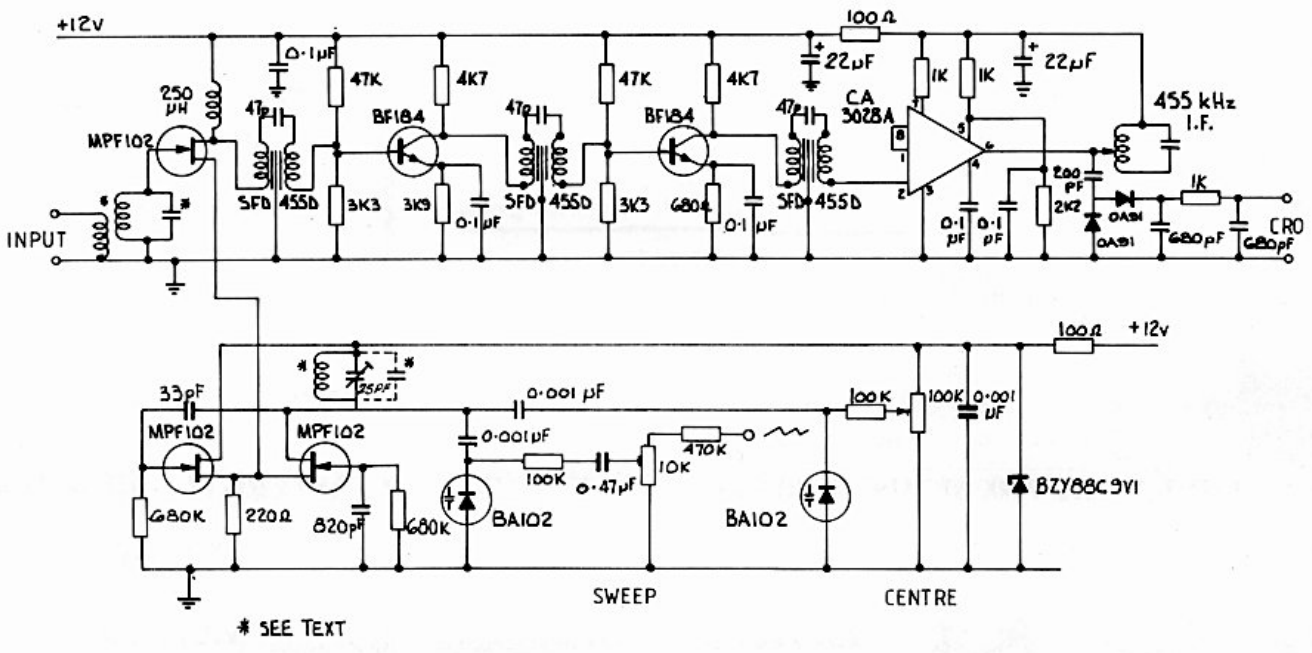


Figure 1 — Panadaptor Circuit Diagram

The basic requirements for the oscilloscope is a low frequency response (DC coupled) and a slow time-base. Oscilloscopes currently selling for under $200 are quire acceptable for use with the panoramic adaptor.

The circuit is not original and was first published by ZL3SW some years ago in Break-in.[1] No claim was made by ZL3SW for originality and due credit was given to ZL3AA, ZL2AMJ and Electronics Australia for help and circuitry.

Circuit

Two MPF102 field effect transistors are connected as a source coupled oscillator. A BA102 diode capacitor and a 100 k potentiometer forms a horizontal shift facility to allow centring of the display. A second BA102 receives a sweep voltage from the time-base output of the oscilloscope thus varying the oscillator frequency at the sweep rate. Variation of sweep width (frequency width scanned) can be obtained by adjustment of the 10 k cermet trim-pot.

Output from the oscillator is fed to the source of another MPF102 and is mixed with the IF output from the receiver to obtain a 455 kHz IF signal. This 455 kHz signal is passed through a filter using Murata SFD455D dual ceramic resonators which are top coupled with 47 pF capacitors.

The output from the IF filter is amplified by the CA3028A, detected and the resultant DC output fed into the vertical amplifier of the cathode-ray-oscilloscope. Since the oscillator frequency is a function of the sweep voltage, the horizontal axis of the oscilloscope may be calibrated in frequency as shown in Figure 2.

Components

All components are readily available with perhaps the exception of the IF transformer. A suitable transformer may be obtained from an old transistorised radio. The printed circuit board allows for a transformer in the TCF series which were very popular some years ago and a hunt through the junk box may be worthwhile. These transformers were num-

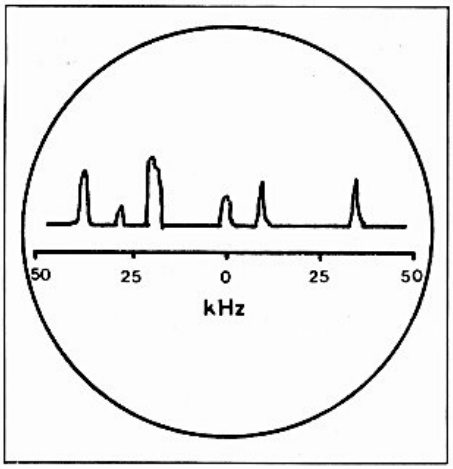


Figure 2 — Display

bered 307A (yellow slug) 307B (white slug) and 307C (black slug) all of which are quite satisfactory. Note that the TCF 308 (red slug) is an oscillator coil.

The input and oscillator coils of the panoramic adaptor are wound on small ferrite toroids. The original used 9.5 mm Philips (magenta coloured) toroids and some manipulation of turns and shunt capacity may be required depending on the toroids used and the IF frequency of the receiver.

For an IF frequency of 9 MHz, the oscillator coil requires about eleven turns of 0.455 mm (25 B & S) with no extra padding. The input coil requires about twenty turns of 0.36 mm (27 B & S) and a 22 pF capacitor across it. The primary winding consists of two turns of hook-up wire. The wire size is not critical, but the windings should be spread out evenly around the toroid.

Printed Circuit

The reproduction of the printed circuit board should be well within the capability of most constructors and an excellent finish can be obtained by using rub-on dots[2] and a resist pen. Figure 3 shows the full size layout.

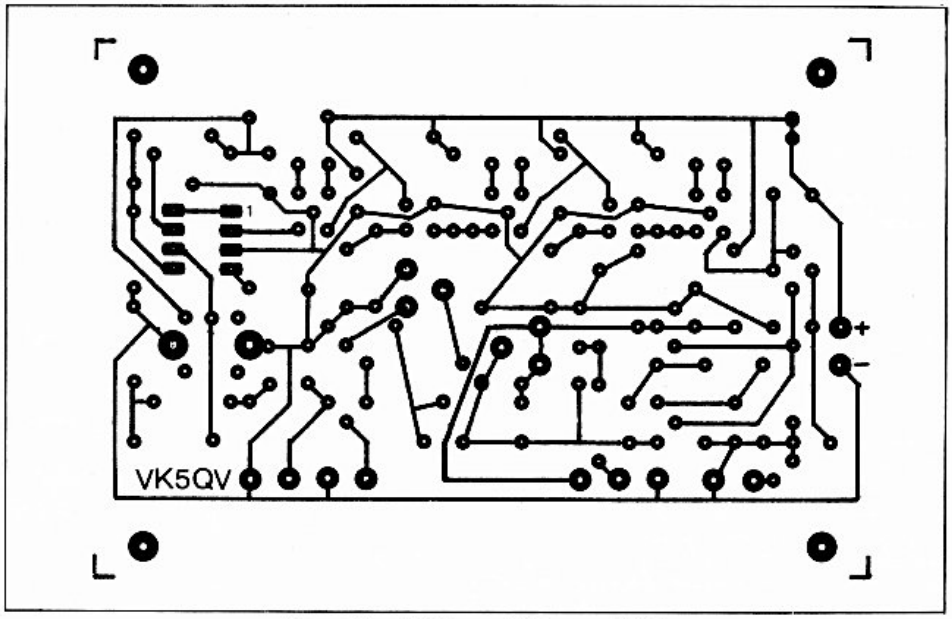


Figure 3 — PCB Layout (Copper Side)

For those readers attempting the manufacture of a printed circuit board for the first time, the following hints may be found useful.

1 *Cut the copper laminate to size.*
2 *Smooth the edges with emery tape and polish the copper with steel wool.*
3 *Attach a photo-copy of the PCB pattern to the copper side of the board.*
4 *Carefully centre punch the board (an automatic centre punch is ideal) and drill the holes using a number 72 drill. Before removing the paper from the board, check that all the holes have been drilled by holding the board up to the light.*
5 *De-burr the holes using a slightly larger drill. Be careful not to take off too much copper.*
6 *Thoroughly clean the copper to remove greasy finger marks and tape copper side up to a solid surface such as a drawing board or table top. Make sure that the tape does not interfere with the pattern.*
7 *Rub on and burnish the dots. Rub-on lettering may also be used to add a touch of individuality such as your callsign.*
8 *Using a small steel rule and with only one corner touching the board, carefully complete the pattern with a resist pen. Make sure that the pen is held vertically if fine lines are to be obtained.*
9 *Check for errors. Unwanted lines may be removed with the aid of a sharp knife and a ball-point pen eraser.*

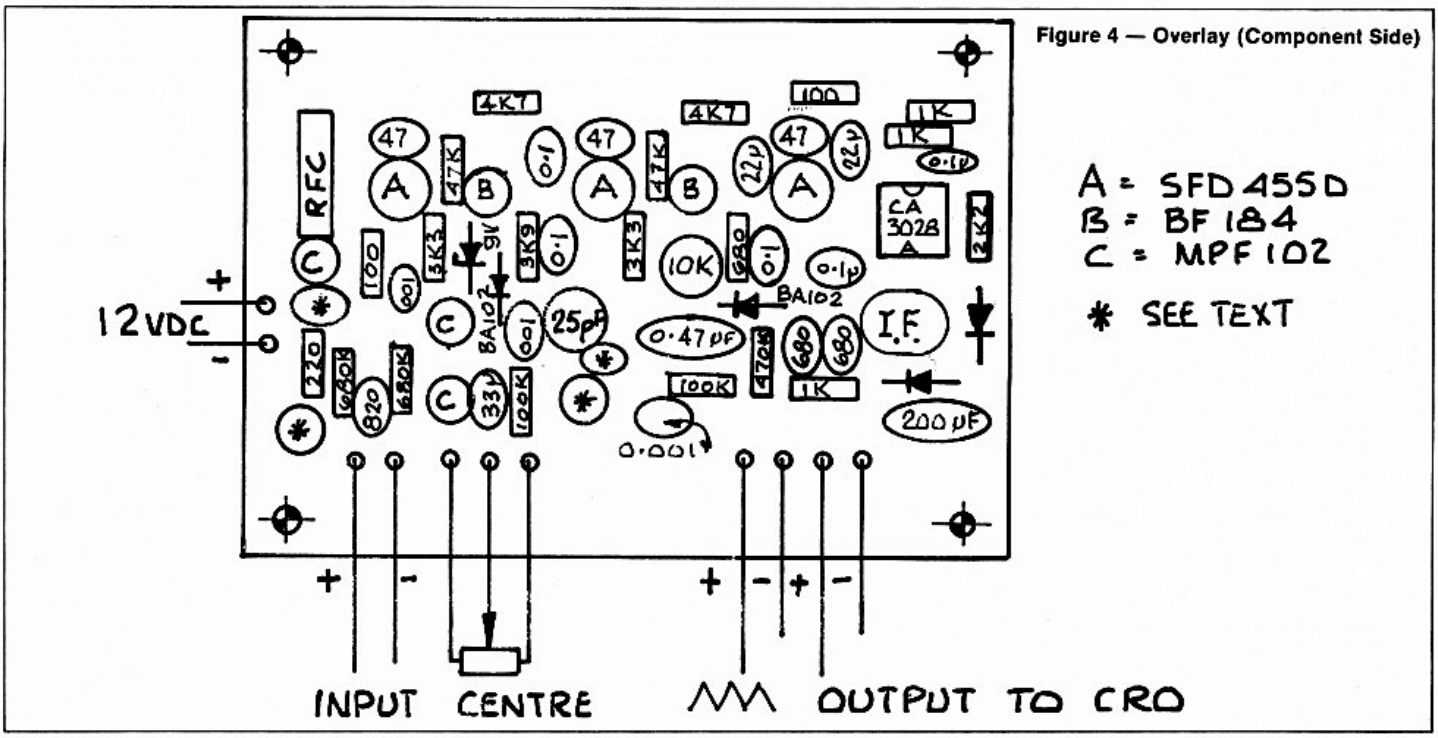


Figure 4 — Overlay (Component Side)

10 *Allow a few minutes to dry the resist before etching in Ferric Chloride.*

11 *Finally remove the resist with white spirit, give the board a final polish with steel wool and then spray with one of the available PCB lacquers.*

Initial Adjustment

Some patience is needed to initially set up the panoramic adaptor, but the following procedure should be followed.

Connect the unit to the receiver, oscilloscope and a 12 volt supply. Set the gain of the oscilloscope vertical amplifier to about half, the sweep rate until the trace just starts to flicker like a 1920 movie and the AC/DC switch to the DC position.

Tune the receiver to a strong signal on a band where there is not too much activity. This makes identification of the signals on the panoramic display much easier. With the 10 k sweep poteniometer and the centring control set to mid range, adjust the oscillator frequency until the signal being received is at mid scale on the oscilloscope. Adjust the slug of the IF transformer to give maximum pip height.

Once the pips have been obtained, each control may be carefully adjusted to obtain the required frequency coverage and pip height. Some adjustment to the resistor values in the sweep control circuit may be necessary depending on the sweep voltage obtained from the oscilloscope and the scan width required.

Component List

¼ WATT RESISTORS
- 2 *100R*
- 1 *220R*
- 1 *680R*
- 3 *1k*
- 1 *2k2*
- 2 *3k3*
- 1 *3k9*
- 2 *4k7*
- 2 *47k*
- 2 *100k*
- 1 *470k*
- 2 *680k*

VARIABLE RESISTORS
- 1 *10k cermet trim-pot*
- 1 *100 k linear pot*

CAPACITORS
- 1 *22p* ceramic*
- 1 *33p ceramic*
- 3 *47p ceramic*
- 2 *680p ceramic*
- 1 *820p ceramic*
- 3 *0.001u ceramic*
- 5 *0.1u ceramic*
- 1 *0.47u greencap*
- 1 *200p styro*
- 2 *22u tantalum*
- 1 *25p trimmer*

SEMI-CONDUCTORS
- 1 *BZY88 C9V1*
- 2 *OA91*
- 2 *BA102*
- 3 *MPF102*
- 2 *BF184*
- 1 *CA3028A*

INDUCTORS
- 1 *250uH RFC*
- 1 *455kHz IF**
- 2 *small toroids**

FILTERS
- 3 *SFD455D*

* See text

Finale

Since the oscillator in the panoramic adaptor is self excited, some drift will be noticeable. My unit requires about ten minutes to settle down after switch on with a total drift of about 50 kHz. Most of this drift occurs within the first minute or so of switching on.

If the unit is connected to a receiver not having provision for a monitor, two things will have to be considered. Firstly the output from the receiver must be obtained *before* the IF filter. Secondly, some anti — AGC circuitry must be used so that the signals don't disappear as they are tuned in. It would appear that at least the FT101Z has such a circuit and no doubt other transceivers also.

After using the panoramic adaptor for a time, one is able to identify signals within the sweep range as unmodulated carriers, CW, SSB, RTTY or even that friend who may frequent the band regularly — and all without tuning.

Once one becomes accustomed to using a panaromic display, one feels somewhat at a loss without it — a little like losing the digital readout. So give yourself a treat and build a panoramic adaptor this weekend.

Notes

1 ***Notes on a Panoramic Monitor — W. Whitehead ZL3SW — Break-in (date unknown).***

2 ***A range of resist dots are available from Elistronics — Melbourne.***

AR

MODIFICATION OF "SIMPLE FREQUENCY SELECTION FOR THE ICOM IC22S"* to allow for LED Display of Channel Switches Operated

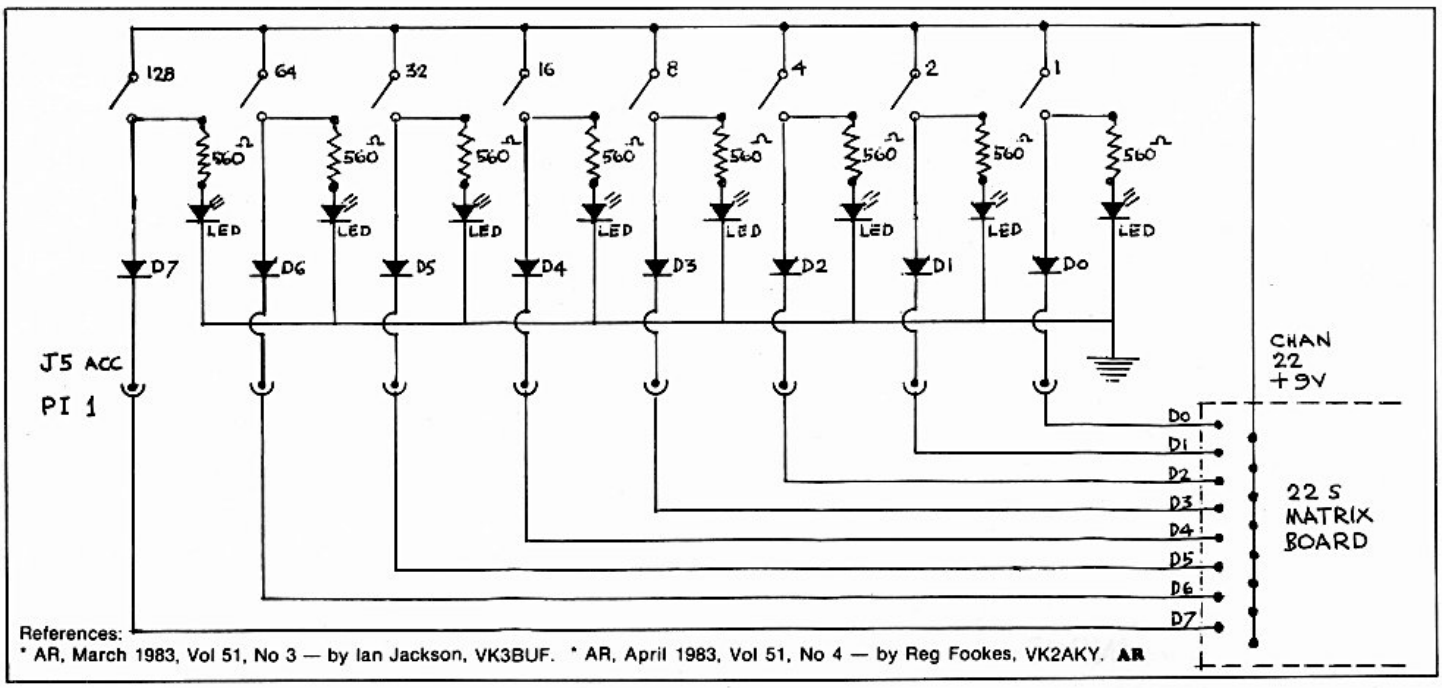
Keith Heitsch, VK4AHK
67 Oleander Avenue, Scarness, Qld

This LED readout is in use by the author and has proved to work very well.

The LEDs have no detrimental effect on normal of the 22S as they are in opposition to the channel diodes.

Also, as suggested in AR*, March 1983, page 15 R141, 15 ohms in the 22S be replaced with a half watt, or even a one watt type resistor if it can be fitted in the space, to give more current reserve to carry the LED's extra load on the regulator.

The LEDs are mounted above the switches on the original panel of VK2AKY's.

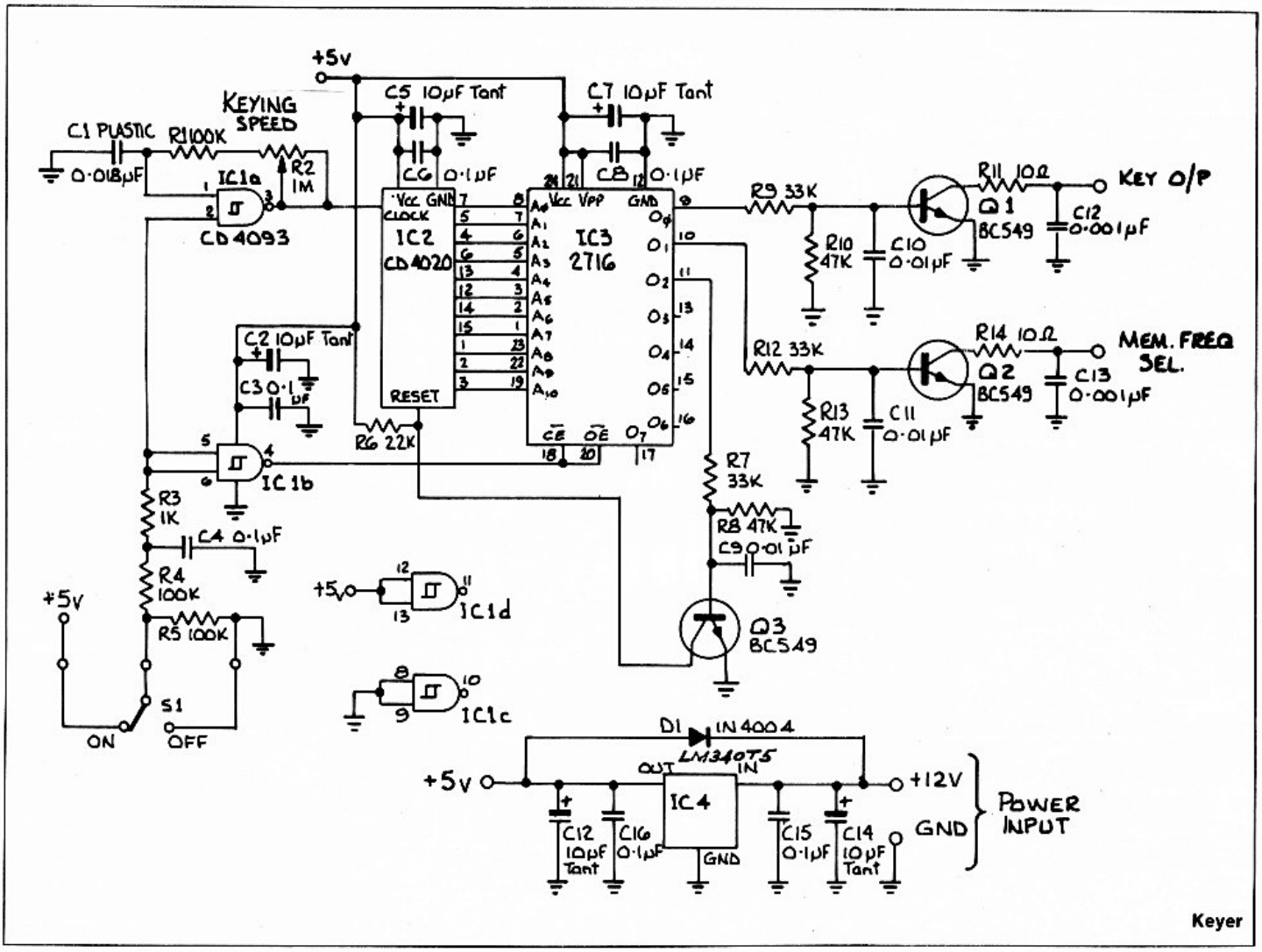


References:
* AR, March 1983, Vol 51, No 3 — by Ian Jackson, VK3BUF. * AR, April 1983, Vol 51, No 4 — by Reg Fookes, VK2AKY. **AR**

PROGRAMMABLE KEYER

Gil Sones, VK3AUI
30 Moore Street, Box Hill, Vic

A preprogrammed keyer was required for two six metre DX operations. These were the stations on Macquarie Island, VK0AP, and Heard Island, VK0HI, which were set up to activate these rare countries on six metres. The VK0HI keyer has been sent to VK9ZS Willis Island along with the FT680 courtesy of the VK6 DX Chasers Club.



Keyer

The circuit given is a simple use of a memory device known as an EPROM. EPROM stands for Electrically Programmable Read Only Memory. These devices may be programmed electrically. Later on the type used may be erased by exposure to intense ultraviolet light.

The EPROM used is relatively cheap and is available from many sources. Some of the devices used in the development of this project were obtained from MacGraths in Melbourne.

During the development of the circuit a CMOS equivalent of the EPROM became available. This equivalent was obtained from National Semiconductor and had the type number NMC27C16Q. These CMOS equivalents have a much reduced current drain.

A standard 2716 memory can easily sop up 100 milliamps at 5 volts. For those readers unfamiliar with the labelling used by integrated circuit manufacturers the figures 2716 are not the whole type number. For example the same device was labelled by one manufacturer as MK2716 and by another as MB2716.

The CMOS memory used in the same circuit dropped consumption to around 10 milliamps from the previous 50 to 100 milliamps.

Another possible benefit of a CMOS memory is the ability to have either TTL output or CMOS output. This would have enabled the transistor Q3 used as a buffer to be dispensed with.

Memory in the EPROM is arranged as 2048 words of 8 bits each. The address of each word is a binary number applied to the address lines A0 through A10.

Each word is used as a basic unit in the message stored. It may represent key up or key down for the time of one dit or one space. A dah or a longer space is obtained by using a number of these basic units. Due to the size of the memory quite a long message can be stored.

If switching were employed a number of messages or a much longer message could be accommodated.

An auxiliary output was provided which was used to activate a 10 metre receiver on Heard Island. This could be used to operate the PTT line.

The rigs used in both operations were FT680s which are keyed into transmit and hold between characters. Additionally on Heard Island a TS660 was available and this was memory switched to monitor 28.885 MHz during the keying cycle.

The circuit works as follows. The switch turns the keyer on by placing +5 volts on one gate of ICIA, which sets the clock oscillator in operation, and also on both inputs of ICIB which inverts this to zero or ground which is applied to the enabling pins of the EPROM.

The EPROM program is the heart of the keyer. The information contained in the EPROM consists of a series of words of 8 bits. Five of these bits are not used. Three bits are used and these contain Keying Information, PTT or Auxiliary Information, and the Reset bit. These may be programmed manually, as binary information, but if you use any sort of programmer then Hexadecimal will be needed particularly for address information. Most of the manual programmers use Hex for the addressing.

Output Function	*Memory Words — Binary*								*Memory Word*
	O_0	O_1	O_2	O_3	O_4	O_5	O_6	O_7	
Receive	0	0	1	0	0	0	0	0	4
Tx Key Up	0	1	1	0	0	0	0	0	6
Tx Key Down	1	1	1	0	0	0	0	0	7
Reset	0	0	0	0	0	0	0	0	0

Output O_0 is the Key.
Output O_1 is the PTT or Auxiliary Output.
Output O_2 is the Reset.

The clock oscillator starts IC2 counting. IC2 is a divider. IC2 has been held reset during the off period by the +5 volts applied to its Reset. When the EPROM is enabled the output turns Q3 on and holds Q3 on for the duration of the message. A reset at the end of the message is achieved by programming an O or low output into the appropriate bit of the end of message word.

IC2 is a rather large divider as it has the capacity to divide by 2 to the power of 14. The divide output is brought out in binary form and is used to address the EPROM sequentially. Unfortunately not all the outputs are brought out in the sequence but by choosing outputs a suitable address sequence can be obtained. Outputs corresponding to divisions of 2 to the power of 4 to 2 to the power of 14 were used. The clock oscillator runs at sixteen times the dit speed.

The clock oscillator uses a Schmitt NAND gate. One gate is used for control and the second is used for the oscillator.

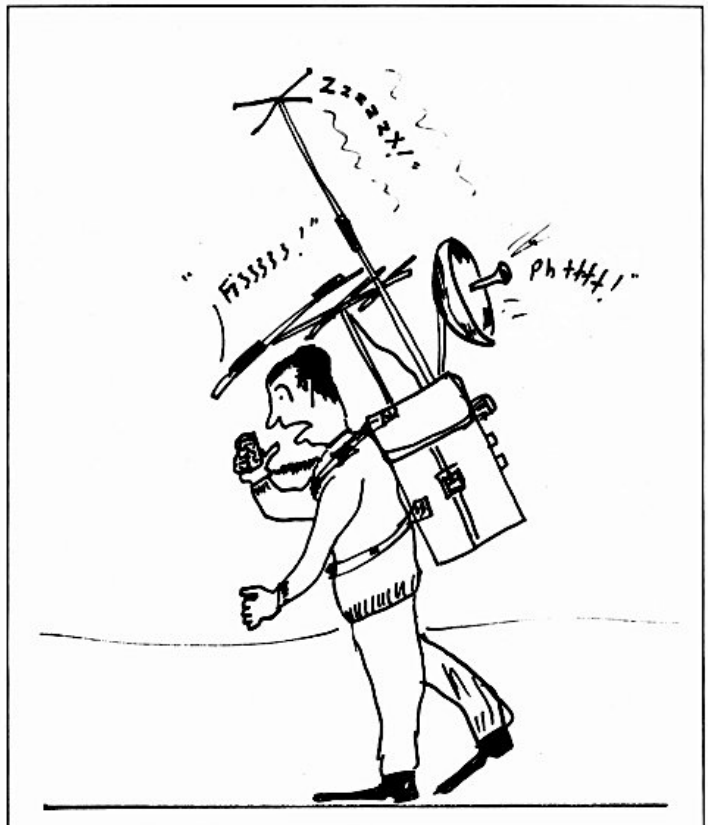
The keyer was constructed on double sided printed circuit board. One side was used as an earth plane. Each IC was bypassed and ferrite beads were used on each transistor base lead. These measures were taken to avoid EMC problems when operating close to a transmitter.

The EPROM needs to be programmed and this can be a real problem. You can build a variety of programmers and you could buy a programmer. However for just one IC this is not very practical.

If you have access to a programmer then you will have no trouble. However for those who must have the EPROM programmed arrangements have been made to have this done. GFS have agreed to arrange EPROM programming. This must of necessity be on a quotation basis. GFS may be contacted at PO Box 97, Mitcham, Vic 3132 or by phone on (03) 873 3939.

The author wishes to thank VK3GJ, VK3NM and VK3AUQ for their assistance in developing and producing these keyers for VK0AP, VK0HI and VK9ZS.

AR



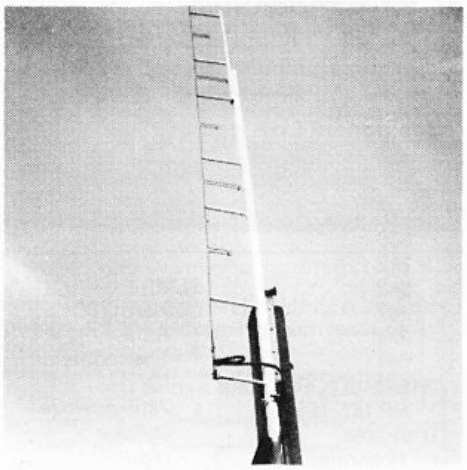
CQ, CQ — de VK2BVS Pedestrian Mobile.

by VK2EBM

A 70 CM BASE STATION ANTENNA

The late Nev Fenton VK2ZBQ

With 70 cm now well established as a reliable and TVI proof band, mobile and net operations are becoming increasingly popular. The growing number of base stations separated by kilometres calls for the antenna system to have some gain, gain usually means dollars.



The 70 cm base station antenna has the following features: low cost ($20) less the Co-Ax; bolts securely to an existing mast, tower or the fence; good wind resistance (has withstood 60 km gusts at this QTH); construction and tuning, a piece of cake, (if the dimensions given are carefully followed, should perform with maximum efficiency); light weight (less than 3 kg); easy to handle (has been roped to the car roof-rack for portable operation at razor back and hilltop and then bolted to a fence).

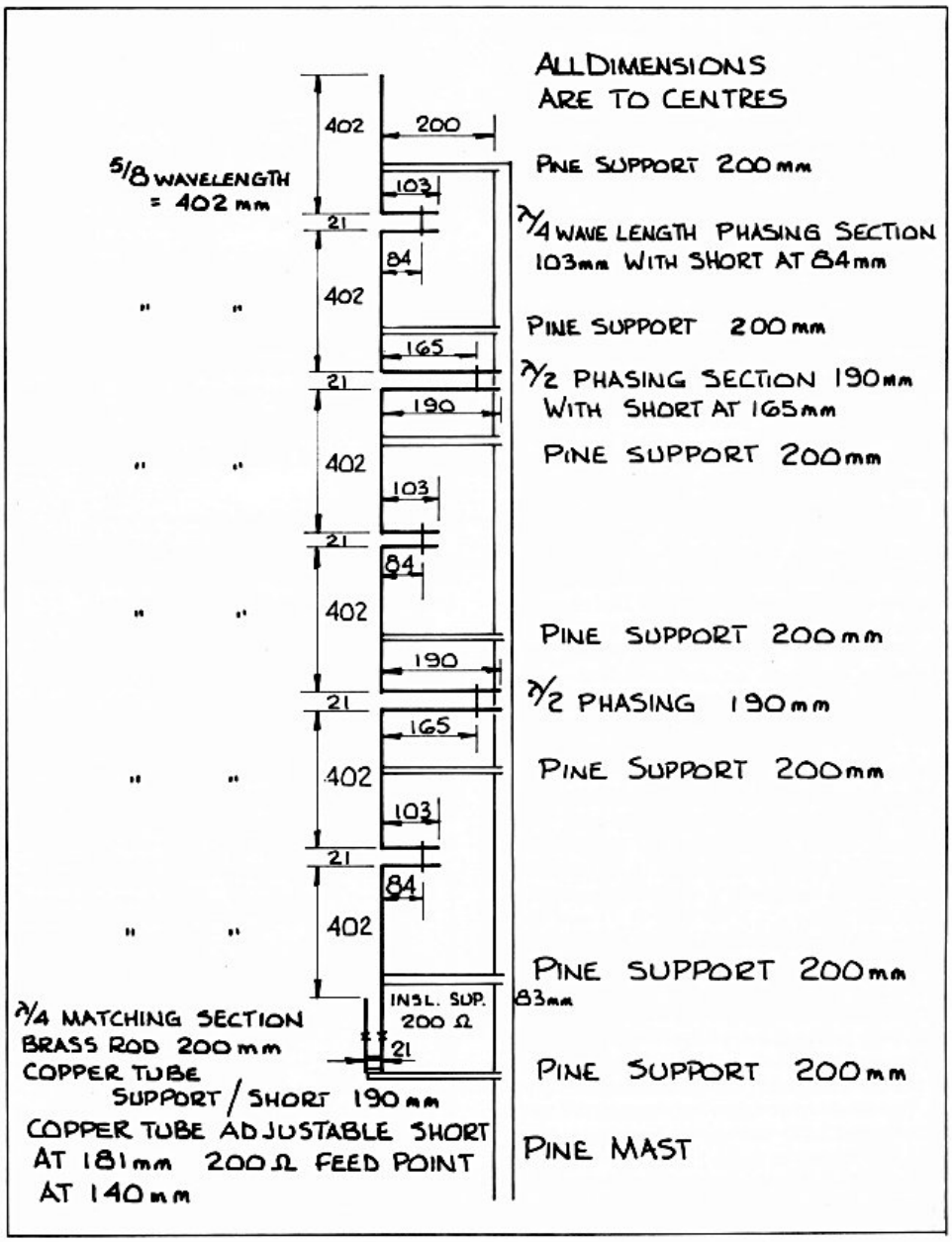
Sid VK2NQ did all the construction and tuning. Field testing was carried out from this QTH and other locations.

MATERIAL REQUIRED

Brass Rod. 4370 mm x 3 mm diamater or six brazing rods.
Copper or Brass Tube 229 mm x 6 mm diameter.
Pine Stand Off. 1.5 m x 13 mm diameter.
Support Mast. 4.2 m x 38 mm x 38 mm. Pine or any light straight grained timber.

TECHNICAL DESCRIPTION

Type, omni-directional, co-linear, gain, around the 6 dB mark.
Radiators. 6 x 5/8 wavelength.
Phasing Sections. 3 x ¼ wavelength.
Phasing Sections. 2 x ½ wavelength.
Matching Section. ¼ wavelength.
Feed Point "Z" = 200 ohm, 4:1 Balun, 50 ohm line.
URM 67 or better, preferred.
SWR at 433.025 MHz = 1:2; at 438.025 MHz = 1.1; at 439.00 MHz = 1.25. AR



DIGITAL INSIDE/OUTSIDE THERMOMETER — A Weekend Project No. 2

Ivan Huser, VK5QV
7 Bond Street, Mount Gambier, SA 5290

This project is based on the versatile RS3-1270 Digital Thermometer/Controller[1] integrated circuit. When used in conjunction with a thermistor and either a LED or LCD display, the RS3-1270 forms a complete unit suitable for temperature measurement and control applications.

As well as the digital display, two control outputs are provided. One output operates when the temperature reading is higher than the set-point and the other when the reading is lower than the set-point. The set-point and the hysteresis above and below the set-point can be programmed by a diode matrix and it is suggested that the data sheet[2] be consulted if it is intended to use this function.

A power failure detector is incorporated on the integrated circuit. If power to the chip is removed for longer than a specified time, the initial reading at restoration of the power will be retained and the display will flash at about 1 Hz. To use this function, link 'A' on the printed circuit board should be replaced with a re-set button. Greater delay times may be obtained by increasing the value of the capacitor on pin 10.

The measurement and control range provided, is from -399 to +399 with the option of the decimal point in any position. In this application, the maximum temperature limit is +39.9 degrees Celsius above which, over-range occurs. This condition also causes the display to flash at about 1 Hz. The numeral which flashes on over-range must be added to the 39.9° (40°) to obtain the actual temperature. Used as an inside/outside thermometer, the flashing over-range indication simply says *"Oh brother — ain't it hot"*.

Circuit

Depending on stability requirements, the clock oscillator may be operated with a RC network, a LC network, or by injecting an appropriate signal into the IC. A RC network was chosen to obtain a clock frequency of about 560 kHz.

The chip provides output for a three digit LED or LCD display. In this application, I have opted to use a two digit LED display with the 'tenths' digit mounted on the main PCB — this digit only being required for initial setting up.

Temperatures below 0° C will be indicated by the decimal point being illuminated via pin 40. The diode connected between pins 2 and 9 inhibits the LCD backplate waveform when the LED display is used.

Separate 'set zero' and 'set full scale' trim-pots are used and switched together with the respective themistor by a 3 pole 2 position switch to obtain inside/outside measurements. 'On card' voltage stabilisation is also used to improve the accuracy of the temperature reading.

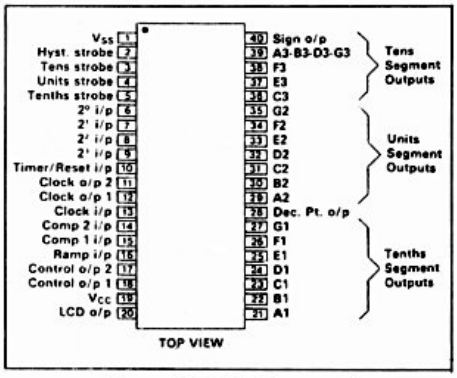


Figure 1 — Pin Connections

Components

All components are readily available. Resistors are ¼ watt and the trim-pots horizontal mounting cermet types.

It is recommended that a 40 pin dual-in-line socket be used for the integrated circuit. A socket may also be used for the 'tenths' digit if so desired.

The two printed circuit boards may be constructed using the rub-on dot and resist pen method. Full size PCB patterns are given in Figure 3. The inter-connection between the two boards may be done using a short length of rainbow cable.

Component List

¼ WATT RESISTORS
- *1 330*
- *1 680*
- *19 2k2*
- *1 3k3*
- *3 10k*
- *1 22k*
- *2 68k*

THERMISTORS
- *2 RS 151-158**

Trim-pots
- *1 1k cermet*
- *2 10k cermet*
- *2 100k cermet*

CAPACITORS
- *1 15 p ceramic*
- *1 0.001u greencap*
- *3 1u tantalum*
- *2 10u 16V single-ended electrolytic*
- *1 47u 16V single-ended electrolytic*

SEMI-CONDUCTORS
- *1 RS 3-1270 Thermometer IC**
- *1 7805 positive voltage regulator*
- *1 1N4148 diode*
- *3 Z-4117 common anode LED displays*

SUNDRIES
- *1 3 pole 2 position switch*
- *1 20 pin DIL socket*

* See note 1

Construction

Construction should present few problems. The thermistors are very small and care should be used when handling and in particular when soldering to the leads. Twin shielded leads should be used for connecting the thermistors and a neat enclosure can be made by setting them in epoxy resin inside

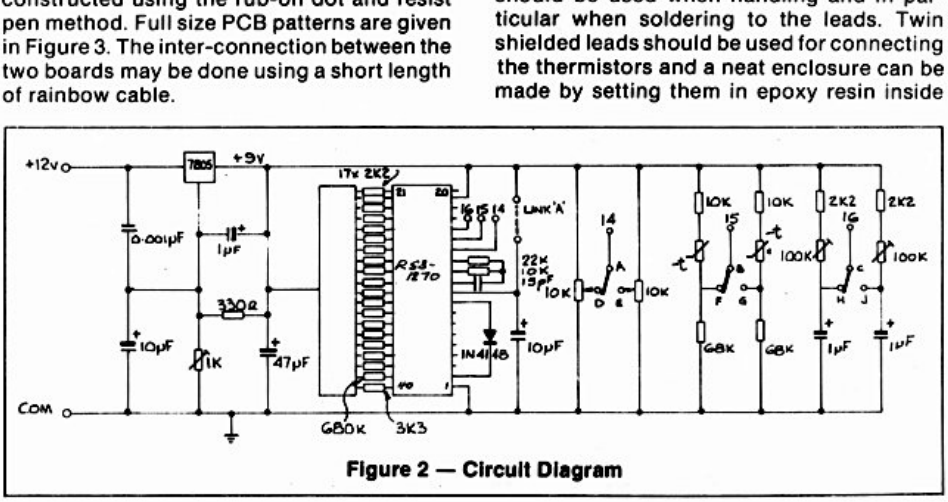
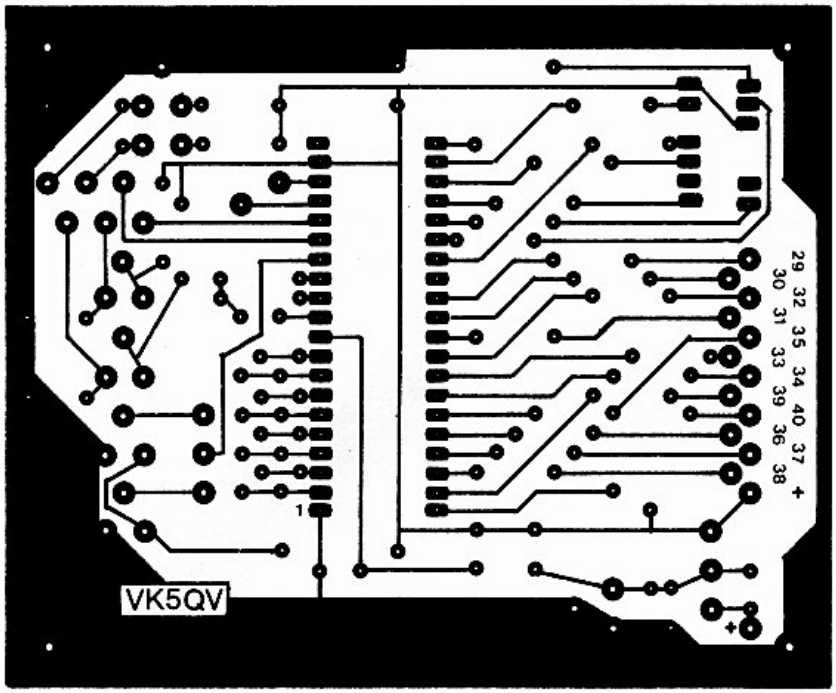


Figure 2 — Circuit Diagram



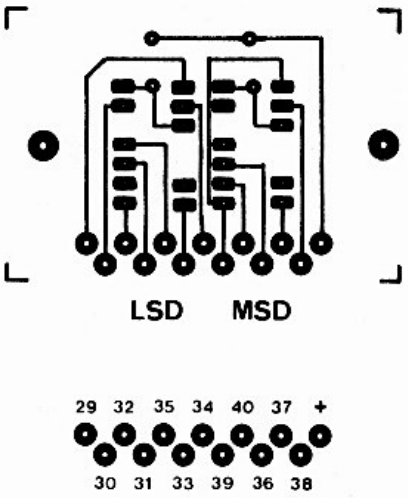


Figure 3 a & b — PCB Patterns

short lengths of thin walled copper or brass tubing and then covering with heat-shrink tubing. See Figure 4.

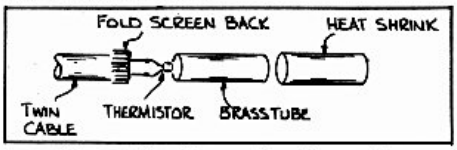


Figure 4 — Thermistor Assembly

Allow enough lead length on the thermistors to enable them to be installed in their final position. The 'inside' thermistor should be kept away from sources of direct heat such as radiators and the rig. Similarly, the 'outside' thermistor should be installed in a shady position — perhaps under a verandah.

Initial Adjustment

Set the voltage adjust trim-pot to minimum resistance and the temperature calibration trim-pots to mid position. Connect to a nominal 12 volt supply and adjust the voltage out from the regulator to 9 volts. With the thermistors connected, some random display should be obtained.

A 'set zero' trim-pots (10 k) should be adjusted as close as possible to O°C. A container of iced water (mostly ice) may be used and will give a temperature of around +2° to +3° Celsius. Make sure that the temperature has stabilised before making the adjustment.

The 'set full scale' trim-pots (100 k) should be adjusted at a temperature close to 30° C. This can be obtained by using a container of warm water, topping up with hot water as necessary to maintain the temperature. Once again make sure that the temperature has stabilised before making the adjustment.

The adjustment at the low and high ends of the temperature range should be repeated until no further adjustment is possible. The trim-pots may now be fixed in position with coloured nail varnish.

Calibration is best done against a good industrial type thermometer, but quite satisfactory results will be achieved with a cheap household type.

Finale

My thermometer has been in use for some time and has provided me with quite accurate inside/outside readings. The lowest temperature I have so far recorded was +3° C and the highest +44° C. These of course being outside temperatures.

Order the components now and build yourself an inside/outside thermometer one weekend.

Notes

1. ***The RS3-1270 integrated circuit is obtainable from Radiospares Components — Rosebery, NSW and West Leederville, WA. Stock number is 309-486.***
2. ***Data sheet 4074 July 82 is available from RS Components.***

AR

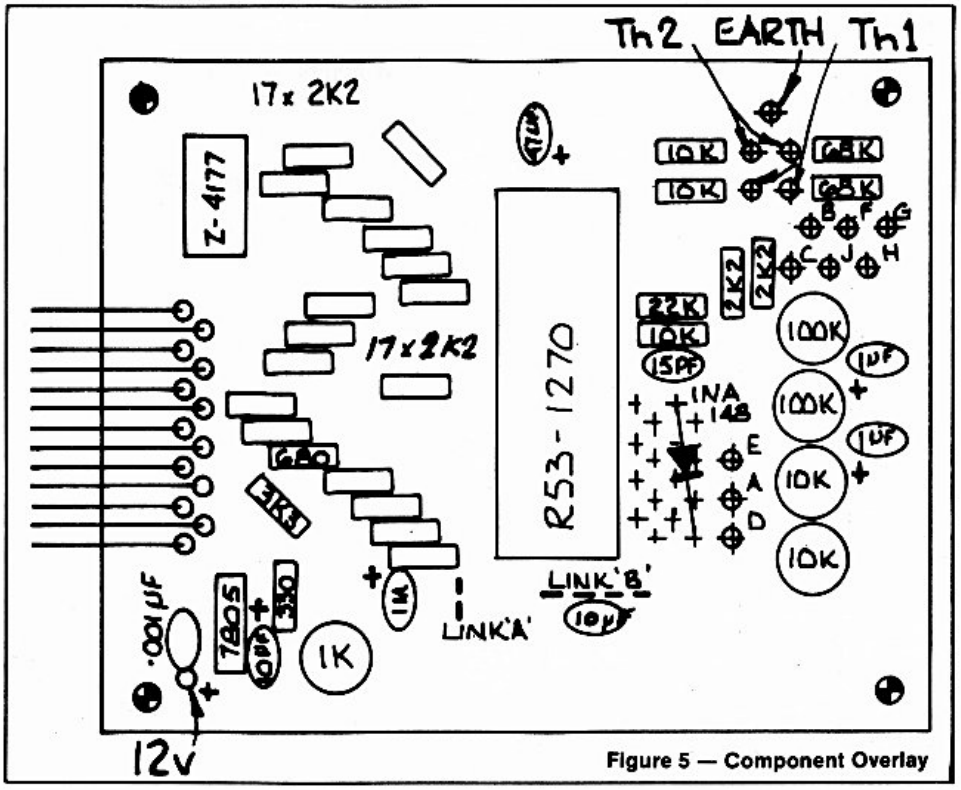
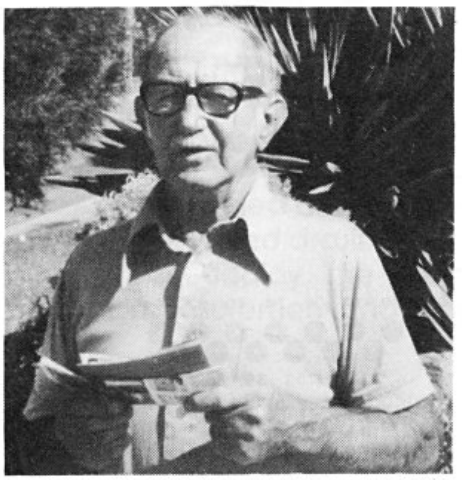


Figure 5 — Component Overlay

THUMBNAIL SKETCHES

Peter Brown VK4PJ
16 Bede Street, Balmoral, Qld 4171



HAROLD AND CHAS STEPHENSON. OA4RG 1926.

CHAS STEPHENSON. VK2BWQ 1974.

In 1926 the Wooloowin Radio Club requested Chas to obtain an experimental licence for the Club, to which request Harold, now 80, and Chas, now 78, complied, in that year.

About this time Chas was active with the Queensland Division of the WIA and operated the WIA station 4AE, also 4WN the Wooloowin Radio Club station in contests etc.

Chas was appointed as Junior Operator, Queensland Radio Service in 1925, of the first broadcasting station in Queensland, 4QG, and as a radio amateur doubtless was more advanced technically than other members of the staff.

Shortly after the Commonwealth took over the station, Chas moved to Sydney where he became involved in building and installing cinema sound equipment throughout NSW and Fiji in 1932.

In 1930 Chas won first prize for a transmitter/receiver in a "Wireless Weekly" show in the Sydney Town Hall, which was his last amateur activity until he obtained his VK2BWQ callsign in 1979.

Automobiles were another involvement, throughout NSW, from which Chas retired some twelve years ago. He featured in a Channel 2 "Your Career" programme, on autos, some years ago.

While in Bourke for some years Chas built a boat propelled by an electric motor, 18 V 12 amp, and capable of 7 mph.

One of Chas's adventures was, at very short notice, giving progress reports by CW on the Forster Cup, run on Moreton Bay in 1928, with 2HC in Quirindi monitoring, while Chas held on to the open top of the "Doomba's" bridge by "the skin of his teeth". Harold, now living in Sydney, is out of amateur radio but Chas is still active on HF. Listen for him.

AR

THE
WIRELESS INSTITUTE OF AUSTRALIA
(QUEENSLAND DIVISION)

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CIRCULAR

Wireless Institute of Australia
(Queensland Division)

Headquarters:
"COURIER" BUILDINGS,
Queen Street,
BRISBANE

Dear Sir,

The Adjourned ANNUAL GENERAL MEETING of the above Institute will be held in the rooms, "Courier" Buildings, Queen Street, Brisbane, on Friday, 4th day of June, at 7.45 p.m.

As the General Business is very important, you are particularly requested to attend.

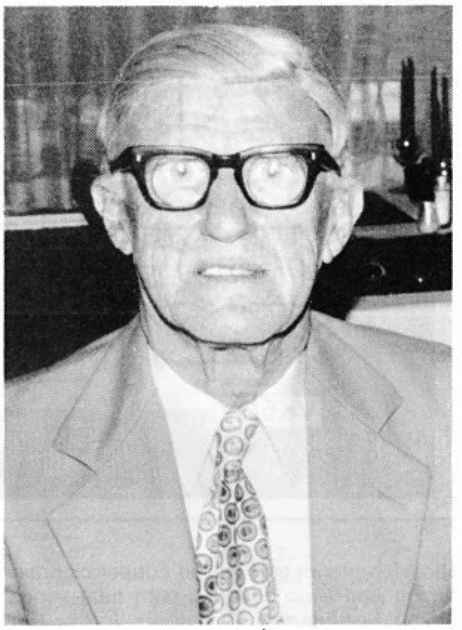
AGENDA:

Correspondence.
Report and Balance Sheet for year 1925-6.
General Business.

C. W. STEPHENSON,
Acting Hon. Secretary

SUBSCRIPTIONS—
Members are reminded that Annual Subscriptions for year 1926-7 are now due and should be paid at once.

VK4 Annual General Meeting Invitation 1926



STEVE FITTELL. VK4JO. 1929. VK4YF.

Steve first saw light in 1910. He claims this was well timed to enter the workforce during the big "Depression", when his job finished with his apprenticeship as a mechanic. As a schoolboy Steve got the radio "bug" and read all that he could lay his hands upon relating to radio. Enthused by a visit from an ex-local amateur, OA4AT, Alf Bauer, he settled to intense study and obtained his licence VK4JO in 1929. For many years he was the only amateur in the Gympie area and needing income published a small advertisement, "Radio Repair and Set Building Service", which service developed into a sizeable business recently disposed of by Steve.

Amateur licences in the 1920/30s approved operations down to 1200 Kilocycles and Steve became a Sunday morning broadcaster of records, using low *battery* power only. However this was the first loud and clear reception the locals had heard, the nearest station until then being 100 miles away, and the hundreds of appreciative letters and reports from five other states and New Zealand encouraged Steve to apply for a commercial licence.

A local company was formed but World War 2 intervened, causing serious delays in equipment supply and installation, and 4GY did not commence operating until 1941.

Steve did not expect to renew his amateur licence after the war but overseas friends "twisted his arm" and he obtained VK4YF in 1970, to maintain those overseas contacts.

A onetime foundation member of Rotary, Steve's main interest, apart from amateur

radio, is the Far East Broadcasting Company, which operates 29 powerful missionary broadcasting stations throughout the world. Steve is a foundation member of the Company.

DENNIS HARKIN. A-3YN 1924. VK4ADJ

By the time that you read this Dennis will be eighty years old. He completed the Marconi School first class PMG certificate in 1923 and from 1924 to 1926 was active on the 30 metre band using a Marconi V24, 6 V/¾ amp, and "lugging" the accumulator to the nearest electrician for charging, to keep his receiver going.

The transmitter was a self excited oscillator using a Marconi UV-202, 10 W input, and a lot of DX on CW was worked, mainly due to the antenna which was a four wire tapered cage, twelve inches to three inches, suspended from a sixty four foot wooden mast above a counterpoise covering the backyard.

Dennis joined the RAAF in 1926 and was posted to Bowen on the Barrier Reef Survey while holding the callsign A-4YN. Back to Victoria as A-3YN and then to Pearce WA, as A-6YN until the outbreak of WW2, whence to Darwin for a couple of years and finally New Guinea, mostly at Madang.

Dennis retired from the RAAF as a commissioned officer after twenty one years service and later retired from the PMG in 1963. His VK3ADJ callsign became VK4ADJ in 1975.

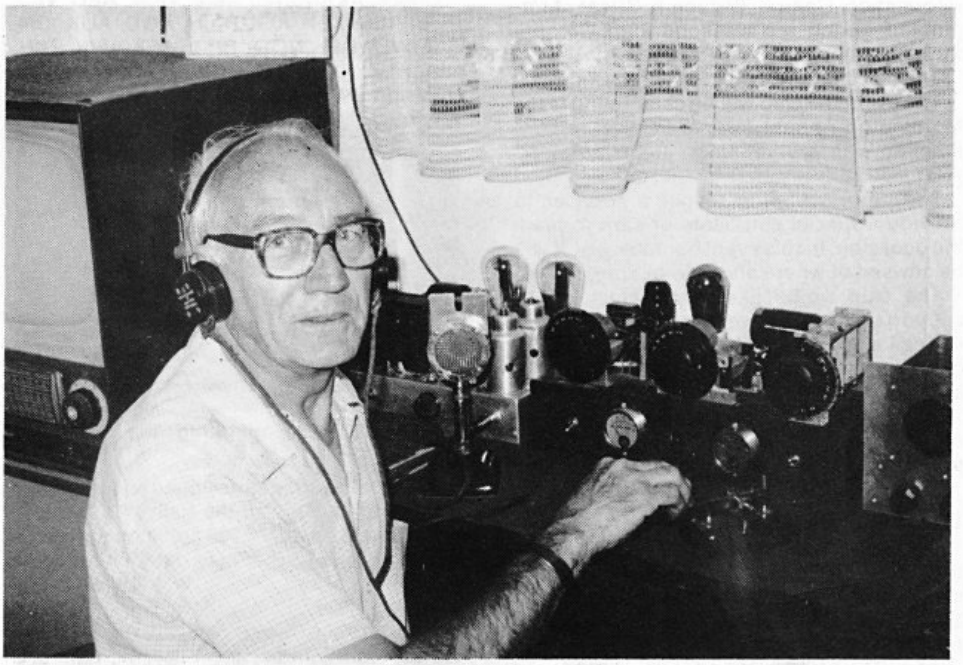
Dennis tells that his longest QSO was 4¼ hours on 30 metres with A-3LP using a self excited rig and ordinary telephone mike, coupled to the antenna. This QSO ended because the mike, passed from one hand to the other, became too hot to handle.

About that time Trevor, A-2NS, founded the Rag Chewers Club, with A-3LP and A-3YN as foundation members of the twelve members.

After a recent setback Dennis enjoys good health and will be pleased to have a QSO with you principally on 20 metres or perhaps via a satellite.

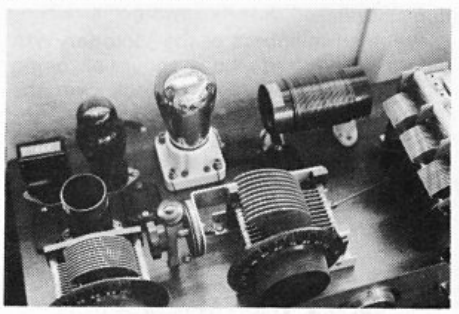
AR

OLD TIMER, OLD RIG

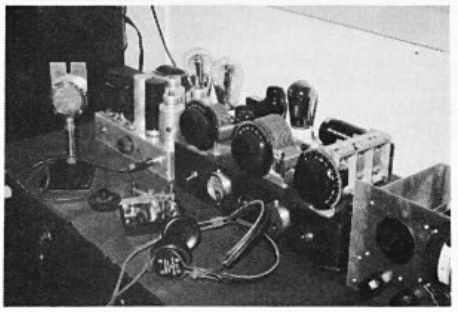


Mac using his equipment on the "Coffee Break Session".

Well known old timer Jock "Mac" McConnell VK3RV has reconstructed his original station which he first used in 1936. Most components are original — the three gang capacitor being part of a Pi output stage as a TVI precaution.

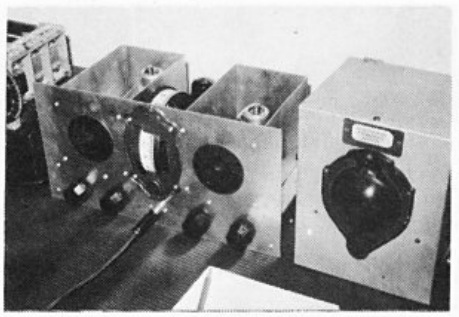


The equipment can often be heard on the "Coffee Break Session" 0100 UTC weekdays on 1.820 MHz.



The transmitter is a crystal oscillator 2A5 to 210 class C plate modulated final running 15 watts.

The modulator uses three 57 valves to a pair of 250s running class A and using the original 1936 home brew transformers for coupling and modulator. The microphone is a popular D 104 crystal type.



The receiver uses a 58 pentode RF stage into 57 regenerative detector and a 2A5 output which is amazingly good on SSB, but it does take some practice.

Is this the "oldest" serviceable rig in operation in Australia?

AR

Photographs by Peter Wolfendon VK3KAU

CLUB CORNER

FRANKSTON AND MORNINGTON PENINSULA ARC

The club will be operating portable from the Information Centre, Elizabeth Street, Mornington during the weekend 29th October through to Tuesday 1st November.

The call sign VK3BHU/P will be used.

The event the club will be celebrating is the Mornington Annual Ti-Tree Festival in conjunction with promoting amateur radio and WCY '83.

The club is hoping to get a sponser to provide a special certificate or card to mark the occasion. In this event contacts on air will be advised of where and how to apply.

The club would like fellow amateurs to support them on this weekend by listening for the call sign, VK3BHU/P, and giving them a chance to make contacts throughout Australia and beyond.

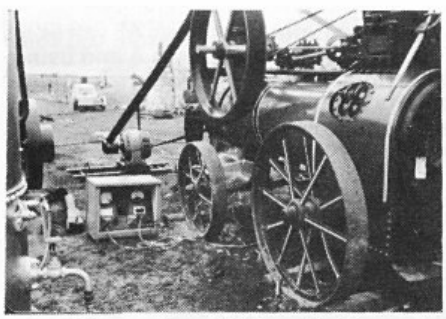
During the period it is hoped to be working on 15 through to 80 metres depending on propagation.

AR

LAKE GOLDSMITH STEAM RALLY

On April 30th and May 1st 1983, VK3BWZ the Western Zone WIA Victorian Division station was operated from the Lake Goldsmith Steam Rally. The operation was very successful, 366 contacts being made on all bands and modes. The weather was not very kind for us but in spite of this a good time was had by all.

The steam engine used was a Marshall portable, 6 HP and was built in the UK in 1914, the generator was a Crompton 230 V, this was built in 1920 and was used at the Sydney Gasworks.



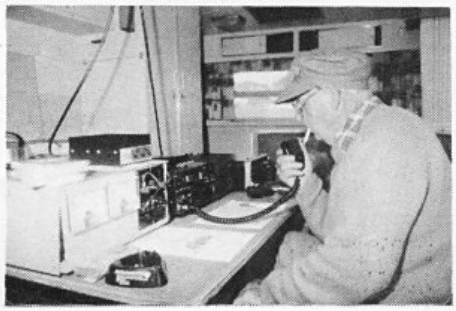
Generator and Steam Engine

Ballarat Amateur Radio Group provided antennas for 10, 15, 20, 40 and 80 metres, two stations, tent and log sheets.

Antenna Farm

There were SSTV and video displays, a VHF and UHF station, RTTY, antique radio and QSL card display.

Operators involved were: VK3s, AEU, VEJ, DLO, ASS, XEX, KGL, KJH, AGD, AUK, GN, PAL, VU, DFI, NQQ, BRZ, AEX, VVX, NIH, NIA, KLZ, PAF, PEC, BGY, PFF, DLO, DQQ, NBV and BWW, also VK5OA.



Maurie VK3XEX operating the VHF/UHF station

A special award was designed and produced by Henry VK3DXC for the Rally.

Of the 366 contacts, 200 applications for the award have been issued to date. These came from all VK States, ZL, DL, W, VU, JA, DL and UA0.

It is expected that we will be at Lake Goldsmith again in May 1984, the date and other information will be notified in "AR" and the Sunday morning broadcasts from each VK Division at a later date.

Maurie Batt, VK3XEX
PUBLICITY OFFICER WESTERN ZONE

AR

SPACE AGE TECHNOLOGY

An insight into the space age technology employed at the Loy Yang electricity generating station.

Seventeen members of the Victorian WIA Eastern Zone had the honour of being amongst the first people to look over the fascinating computer controlled and instrumented coal winning section of the Victorian State Electricity Commission's newest power station in Gippsland.

L to R: Geoff Roberts, operator, Roger Noble, Technical Officer, Michael VK3ZQV, Sue and Geoffrey, family of VK3KDK, Stewart VK3BSM and Charlie VK3CMA

Mr Geoff Roberts at the instrument console, keeps a watchful eye on the video screens and other trouble indication devices as some of the guests look over his shoulder.

Photograph by Fred Hobson, VK3QH

AR

EXPO '83

On Saturday 3rd September the Eastern and Mountain District Radio Club staged a combination hamfest and communications exhibition as part of WCY.

Despite inclement weather the day was a huge success.

Tony VK3QQ, Federal EMC Co-ordinator inspects SWL antennas at the Expo.

VK3WCY on air from the Nunawading Civic Centre.

Peter VK3BFG demonstrated Amateur Television.

Trade Displays.

MEMORIAL TO VERN KERR (VK4LK) AND THE ROYAL FLYING DOCTOR SERVICE

Peter Renton, VK4PV
PUBLICITY OFFICER
Townsville Amateur Radio Club

The historic golf mining town of Charters Towers in North Queensland was the setting recently for the dedication of a display honouring the memory of the late Vern Kerr VK4LK.

Vern Kerr in his shack in the 1930s.

In the presence of the Mayor and other distinguished guests, the display was officially handed over to the Charters Towers branch of the National Trust by Bill Sebbens VK4XZ.

As a young man, Vern Kerr was the first radio operator to be associated with the Royal Flying Doctor Service when it opened in Cloncurry in 1934, having already gained his amateur radio licence two years earlier. During the forty-three years of his professional career he saw the radio equipment change from the original crude typewriter morse machines, through the famous "pedal" radios to modern solid state transceivers.

On his passing away in 1979, he left a few unfinished projects among which was the construction of a replica of the first receiver used at Cloncurry. This labour of love was taken over by Ron Tulloch VK4BF.

Problems were many, not the least of which were the absence of the exact circuit and not knowing the physical size of the receiver. However as the result of research into old photos and records the project was completed. Others who assisted Ron were Ted Gabriel VK4YG, Alan Stephenson VK4PS, Jenny Colby (XYL of Ron VK4ZOH) and Merle Howie of Charters Towers.

Professor Ward of James Cook University donated the original control console from the Charters Towers base, and this now forms the centre section of the display.

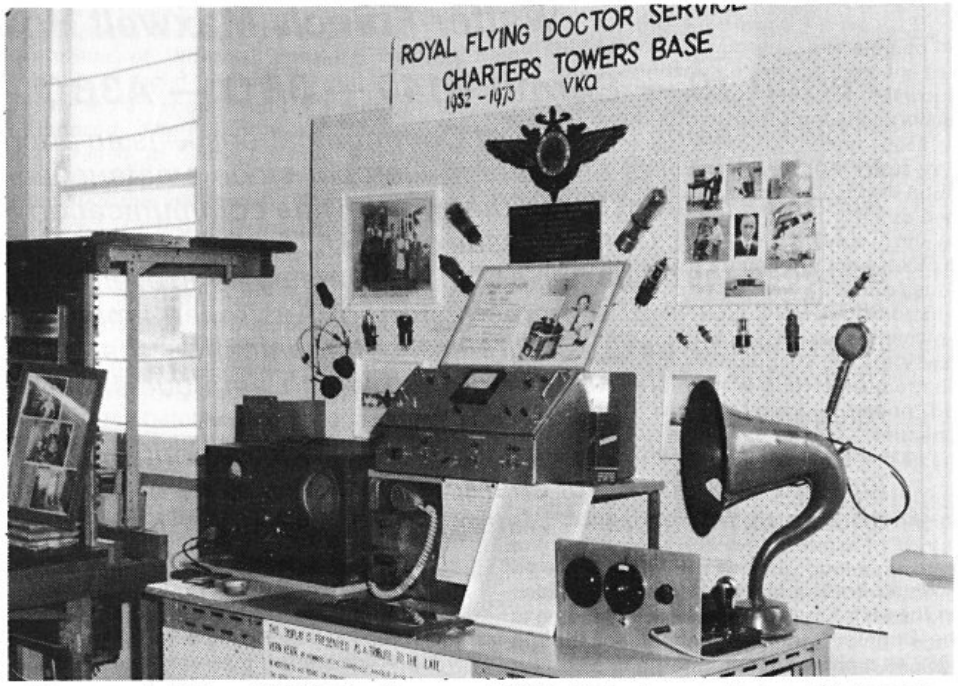
Ian Sutton (VK4ZT) and John Stevens (VK4AFS) assisted Ron Tulloch to put the display together.

It was pleasing to see many members of the Townsville Amateur Radio Club journey to Charters Towers for the occasion, particularly as Mrs Kerr was present to see this recognition of her late husband's work.

On behalf of the National Trust, the President of the Charters Towers branch, Miss Anne Rollinson said she was delighted to accept the display. Having known Vern during his twenty-one years in Charters Towers, she was confident that the display was a fitting memorial to "the Man and his Work".

Members of the public were then asked to inspect the display, and the assemblage was then invited to join members at afternoon tea which was held in the old historic Stock Exchange building.

AR



The memorial to Vern VK4LK. The plaque reads "This display is presented as a tribute to the late Vern Kerr by members of the Townsville Amateur Radio Club. In addition to his years of service as a professional radio operator with the Royal Flying Doctor Service, Vern was also an active, widely known and respected amateur radio operator, gaining his licence in 1932. His callsign was VK4LK."

Amateurs, XYLs and children that attended the dedication of a memorial for the late Vern Kerr, VK4LK. Standing L to R: Noel VK4KNW, Charlie VK4BQ, Ray VK4LU, Bob VK4WJ, Vince VK4NBS, Max VK4VDF, John VK4AFS, Ron VK4BF, John VK4NIE, Ian VK4ZT and Bill VK4XZ. Seated second from left Evelyn VK4EQ and Mrs Kerr surrounded by XYLs and harmonics.

PIONEERS OF AMATEUR RADIO IN AUSTRALIA

Maxwell Hull, VK3ZS
FEDERAL HISTORICAL SECTION

Sixtieth Anniversary of World-Wide Communication

Walter Francis Maxwell Howden

Permit 19 — Permit V140 — 3BQ — A3BQ — OA3BQ — VK3BQ

1983 — being the Year of Communications — is an appropriate occasion to recall that it is 60 years in October since amateur radio, particularly in Australia, demonstrated that world-wide communication was possible.

This historic October issue of "AMATEUR RADIO" magazine, celebrating as it does, the magazine's 50th Anniversary, is an even more timely reason for recalling some of the epic history of Australian amateur radio experimentation which gave to wireless communication that first 'glimpse' of the usefulness of the frequencies to which amateur experimenters had been relegated.

This short article deals specifically with the contribution of one of the most learned and colourful characters in the history of amateur communicators and experimenters — Walter Francis Maxwell Howden — VK3BQ.

Walter Francis Maxwell Howden was born on the 18th April, 1899, and was educated at the Brighton Grammar School, founded in 1882 as a private school by the late Dr G H Crowther. The school badge, with the wings of ambition following the guidance of the finger of education pointing to the star of achievement, was intended to be a symbolic representation of the motto — "Meliora Sequamur" — which means — "Let Us Follow Better Things". Max was equal 'dux' of the school in 1916 at the age of seventeen.

There is no doubt that Max Howden lived up to his school motto for he certainly reached the star of achievement in the field of wireless, being one of those dedicated experimenters who literally became a public idol as he gained so many firsts in the mysterious form of communication first made practical by Senator Guglielmo Marconi.

From Brighton Grammar School he attended the Working Men's College, later to become the Melbourne Technical College and more latterly the Royal Melbourne Institute of Technology, where he studied electrical engineering, the basis from which stemmed wireless studies in the early days.

Following the cessation of hostilities of World War I in 1918 wireless communications was in control of the Royal Australian Navy under Commander F G Cresswell, AMIEE. Experimental stations had been closed down in 1914 and all equipment impounded. The war saw great strides in the development of communication, introducing wireless telephony and the triode and tetrode valves. However, the Navy was loth to issue licences to transmit but it did issue permits for receiving purposes only and Max Howden was issued with Permit No 19 in 1918, this being replaced by Permit V104 in 1919.

In November of that year the Victorian Section of the Wireless Institute of Australia conferred with Commander Creswell seeking approval for experimental stations to transmit using a power of 250 watts but the Navy was obstinate. By November, 1919, the American and Canadian Governments had 'lifted' the war-time bans on transmitting. Australian experimenters had banded together and the Wireless Institute in Victoria, Queensland, South Australia and New South Wales had again commenced activity and were taking steps to approach the Federal Government for permission to transmit as well as receive. In July of 1920 controls under the Wireless Telegraphy Act were transferred back to the Postmaster-General's Department under the jurisdiction of Mr Jim Malone who was to become a good friend of the Wireless Institute of Australia and amateur radio in general. The introduction of experimental transmitting licences following this change was the commencement of the most exciting era in the history of communications. The wonders of 'wireless' was on the lips of the populace at large and the amateur experimenter held the centre of the stage.

To hear another station from interstate was indeed an achievement, the area of experimentation being from 3500 metres down to 200 metres. The Navy had done some experimenting with 'telephony' during the war and climaxed this with the first telephony transmission in October, 1920, between its office in Lonsdale Street, Melbourne, and the local Exhibition Building. Fantastic! In the same month the Wireless Institute in Victoria conducted wireless telephony communication for — HENLEY ON THE YARRA. Mr L A Hooke — manager of Amalgamated Wireless (Australasia) Limited — broadcast a programme from his home to a meeting of both Houses of Federal Parliament in Queen's Hall, Melbourne. Broadcasting had really taken off and the amateur experimenters were right in the middle of it. The shorter wave bands had yet to be 'discovered'.

1921 saw the Victorian Division of the WIA transmitting news bulletins nightly on 200 metres. The Institute had adopted a publication — "SEA, LAND & AIR" — (first published in 1918) as its official organ. The Western Australian Division of the WIA was incorporated. Valves were released on the market making Types UV202, UV203 and UV204 available to experimenters and these were rushed despite the high price. News from overseas magazines and periodicals advised of 'long distance' communication using shorter wave lengths (two-way communication hadn't been established) between the USA and the United Kingdom across the Atlantic Ocean. This exciting information triggered off a fervor of activity in Australia. By March of 1922 the first two-way third party 'DX' contact had been made between 2CM on 1350 metres from the roof of the Wentworth Hotel, Sydney, and 2JR on 2200 metres from the PMG Radio Service Station from the top of Collins House, Melbourne.

Because Australian experimenters had been limited to permits for 'Receiving Purposes Only' a great deal of time had been spent

developing sensitive receivers. Max Howden was one of the most dedicated experimenters in this field being appointed as technical designer to — CORBETT, DERAHM & CO PTY LTD — receiver manufacturers of the then famous TUNAFONE range, and agents for other wireless components with offices in Melbourne, Sydney and Adelaide.

In December, 1922, Mr H Kingsley Love, 3BM, President of the Victorian Division of the WIA after having heard transmission from high powered American commercial stations, conceived the idea of organising TRANS-PACIFIC TESTS because he was convinced that amateur stations on the Pacific coast of the USA might be audible. The Victorian Division supported his idea and appointed him to head a special Committee to organise the tests. The arrangements had of course to be made with the USA by correspondence. Letters to several Pacific coast amateur associations brought only one reply — from Long Beach Radio Association in California, who welcomed the proposal "with typical American fervor" and replied "that the matter would be taken up all over America". But nothing further was heard until a communication was received from a commercial publisher — "RADIO JOURNAL" — advising that the organisation of the proposed tests was beyond an amateur experimental association and stating that the publication had taken over control in the USA and had already enlisted 500 participants. The enthusiasm of the Americans was high. The tests would be conducted on a wavelength of 200 metres. To authenticate the reception of the American transmissions in Australia the USA amateurs were each to be given a 'code word'. The schedule of these codes was finally received and lodged with the Controller of Wireless, Melbourne, who willingly involved the Postmaster-General's Department in confirming the contacts from submitted logs at the conclusion of the tests.

Drought conditions proved disasterous at the time selected for the tests — 1st May to 17th May, 1923 — but a few Sydney and Melbourne experimenters logged the code signal "MOTT" on the 5th day. The drought broke on the 10th May and atmospheric conditions worsened to the point where "RADIO JOURNAL" were cabled to abandon the tests until a period from the 20th to the 31st May. The choice was a good one, conditions improved, the tests proceded and made history. After the conclusion of the tests and logs had been checked the winner was — "decisively Mr Max Howden, 3BQ, of Box Hill, Victoria". His log was reported in the press and radio periodicals as being — "a masterpiece of consistency". He had logged twenty two stations out of the twenty three who transmitted code words. The records don't show what happened to the other 477 stations who were supposed to have applied to take part in the tests!

Max Howden was the recipient of congratulations from the whole radio fraternity. He was tendered a social evening by the local Radio Club, the Box Hill Section of the Wireless Institute of Australia, to commemorate the event, at which he was presented with a handsome piece of crystal ware. Descriptions of his 'apparatus' appeared in radio magazines all over the world, some of the articles being written by himself.

In those days receiving was considered the difficult part of experimenting and receivers were home constructed in such a manner that stages of radio frequency and audio frequency amplification could be bypassed or 'shorted out'. Many receivers were of the 'regenerative' design requiring precise tuning to avoid oscillation which could re-radiate from the antenna system and cause untold interference to other experimenters. The 'heterodyne' and 'super-heterodyne' receivers had not yet arrived on the scene but were just around the corner.

The overall scene of wireless was in something of a mess and regulations were on the way, causing amateur experimenters considerable anxiety. The Commonwealth Controller of Wireless, speaking at Max Howden's social evening stated — *"the experimenters should not, and would not, be hampered. Their endeavours should be encouraged in every possible way. Such performances as that of Mr Howden substantiated this contention. The endeavours put forward in this test had yielded a result of considerable commercial interest (!), and one felt like labelling Mr Howden's receiving set as the most efficient in the world."* Mr E W Greenwood, MLA, for Box Hill and Councillor W Young, President of Nunawading Shire, endorsed these remarks.

Further TRANS-PACIFIC TESTS were planned for October 1923 but this time the Australian experimenter was seeking to establish two-way communication. The transmitting Americans in the May Tests had used powers of 1000 watts. Some two months before the October tests special permission to use a power of 1000 watts was granted. Early tests by Max Howden using high power and a high antenna system resulted in 'poor efficiency' so he experimented with shortening the antenna system and reducing the wavelength to which his receiver would tune resulting in much better signals to New Zealand on 140 metres; but two-way communication with America was still not achieved. It was known that the Americans were experimenting on lower wavelengths. By June of 1924, Max Howden had designed a 'low-loss' receiver using a detector and one stage of audio. With only one 'tuning control' to contend with, the Americans could be tuned in on almost any night. Encouraged with the results Max Howden decided to attempt two-way communication with America again and with 250 watts was successful in working X3AA on the Port Curtis at a distance of 5800 miles on 140 metres. But still no contact with the Americans although they were pouring in on his newly developed 'low-loss' receiver. Finally he installed a Philips 250 watt valve (in place of 5 x 30 watters in parallel), reduced his antenna system and receiver tuning range to 85 metres and on 3rd November, 1924, made the first ever two-way contact between Australia and the United States of America by exchanging CW messages with U6AHP. Max Howden had done it again! Others were close behind. The world went crazy with amazement! Amateur experimentalists had 'bridged the globe'. The useless wavelengths below 200 metres were indeed proving to be far from useless.

Max Howden — now A3BQ — was full of ambition when it came to experimenting. His success in working America inspired him. Within ten days, 14th November, 1924, he was tuning his receiver at 5.04 am and heard this relatively weak but good Morse signal. In Max's own words — *"I forgot the earliness of the hour, and my sleepiness, and just waited and waited for him to sign his call. His tuning was sharp so I knew he was a distant station, and I thought he was English by his very 'pure' note. After keeping me in suspense for nearly five minutes he eventually signed off. It was G2OD in England! I called and sent him congratulations and greetings from Australia. With signals fading he confirmed the contact and I replied and made a schedule for 1800 GMT the following morning and signed — GN.*

"I sat back, lit a cigarette, and studied my DX cards, wondering where his card, the best DX I could ever get, would look best. It would depend on the size of the frame! After a while I came down to earth, or rather back to Australia, and remembered that I was very sleepy, and that there was at least 2½ hours before I could report, so I went back to bed. About midday I received a cable from Mr Simmonds, G2OD, confirming the establishment of the first two-way communication between England and Australia that morning, so I had not dreamt it!" Here was another 'first' for Maxwell Howden. Again his story was written up in the press and radio journals. Establishing two-way communication between the two most far distant continents within ten days of each other heralded an era of intense activity.

With the clamour of his success still ringing in his ears, Max Howden reasoned he should be able to establish two-way communication using 'telephony'. He had done some earlier experiments in 1923. In January, 1925, with typical engineering ingenuity, he — *"put a primary and core inside the wire coil used as a grid leak to turn it into a modulation transformer, then connected a battery and carbon microphone in series with the primary, closed the key, and talked"*. He had immediate success working interstate with his modest system so he decided to attempt to try an overseas telephony transmission. When next he contacted G2OD on the 9th February, 1925, he asked Mr Simmonds if he would like to try receiving 'speech'. Being himself an expert experimenter Mr Simmonds agreed to participate in the test.

Max Howden switched over to phone and transmitted — *"Hello, Hello, G2OD. Hello Mr Simmonds, hope you are getting this OK"* (then he counted from 1 to 10 several times) and finished by saying *"Right Oh G2OD, I will change back to CW now"*. The reply from G2OD confirming that the text of the short message had been reliably received across the world by wireless telephony for the first time. Max Howden had done it yet again! Station A3BQ was becoming notorious for its 'firsts' in amateur experimenting. In the interim Max had joined and was President of the Canterbury Wireless Club. In commemoration of his Australia-England two-way telephony achievement the Club presented him with an elaborate old English hand lettered certificate incorporating in the top left corner the motto — TRANS AE THERE VOCAT — Talking Across The Ether; the certificate read as follows —

To Mr Max Howden — President of the Canterbury Wireless Club — affiliated section of the Victorian Division of the Wireless Institute of Australia — This token of congratulations and esteem is presented in commemoration of his wonderful achievement on 9 February 1925 when he transmitted his voice on a wavelength of 83 metres from Box Hill, Victoria, to Gerrard's Cross, Bucks, England, being there heard by Mr G F Simmonds, and thereby attaining the unique position of being the first of Australian amateurs to speak across the world . . . Thus also he opened up a new era in Wireless Transmission for all amateurs, as well as deepening the great regard and admiration felt for him, not only by his club, but also by the World-Wide Brotherhood of True Experimenters. A J Stokes — Vice-President. C J Falconer — Secretary.

Max Howden had certainly opened up a new era. Audio became a new area for experimentation and the next five years was not only to see great developments in 'wireless telephony' on short waves but also transmission of musical programmes by selected amateurs operating on the 200 metre bands —transmissions which were often stated in the press as being superior in quality to many of the commercial transmissions of the day. The WIA later formed a "PHONE SECTION" as part of its activities.

Following the introduction of new regulations covering all forms of 'broadcasting', which came into force in December, 1922, under which favourable conditions were made available to amateur experimenters, the Wireless Institute in Australia grew rapidly and became the catalyst for introducing radio to the people. In 1924 the Victorian Division convened and organised the first — WIRELESS & ELECTRICAL EXHIBITION & CONVENTION — which was held from the 14th to the 19th May in the Melbourne Town Hall. Max Howden was a Vice-President of the Institute and was involved in the organisation of the Exhibition which attracted thousands of people and was supported by a large number of Trade Houses dealing in wireless receivers and components for the experimenter. The convention part of the event brought the Divisions of the Wireless Institute of Australia together for the first time, resulting in its Federal organisation developing. The second Federal Convention was held in Perth in August, 1925. So gratifying was the success of the Exhibition that the Victorian Division of the WIA organised another, much larger Exhibition in May of the following year, 1925, the response being so great that intending exhibitors had to be turned away. It was held at a site known as WIRTHS' PARK — the location of part of Melbourne's new Concert Hall and Arts Centre today. Max Howden was still serving on the Council of the Wireless Institute and not only exhibited some of his latest equipment but was rostered, amongst others, to deliver technical lectures, Max's being on the subject of — LONG DISTANCE WORK. Much was written in the press of the day reporting the great advance in radio receiver design over the previous twelve months. Max Howden's TUNAFONE receivers were incorporating some of these advances. 1926 saw yet another Exhibition on the same site, this time bringing to the notice of the public how amateur experimenters had — "delved deeply into short-wave bands and had uncovered some of the secrets of science and the ether". Thousands of miles had been spanned by amateurs using less power than was required to operate an electric iron! Great possibilities were being forecast for the wavelengths from 1 to 100 metres and the years from 1926 to the outbreak of World War II was to substantiate this. Amateur wireless experimenting experienced great growth over this period with the introduction of 'crystal control' bringing about highly stable transmission.

Max Howden — now OA3BQ — was an early experimenter with crystals and went on to form his own crystal grinding business supplying crystals to industry and the amateur fraternity. As in every other field of experimentation with wireless he became an expert with crystal control of transmitters, delivering lectures and writing articles on their use including articles in the American amateur publication — "QST".

For some years he was the writer of a weekly page on amateur radio in the Melbourne — "LISTENER IN" — at the same time being the 'Technical Director' of the Victorian Division of the WIA. Despite all the time devoted to reading, writing and lecturing he found time to continue experimenting with the shorter wavelengths and in September, 1928, was the first to establish two-way 10 metre communication across Australia between his home (then in Ringwood, Victoria) and the home of Mr H Austin in Victoria Park, Perth, Western Australia. As far as was known at the time, it was also a world record.

Every activity of the Wireless Institute of Australia involved Max Howden and others of course whose history might well be written. In 1929 Mr H Kingsley Love, President of the WIA, himself an ex-war pilot and then a Flight Lieutenant in the Citizen Airforce, formulated a scheme which interested the Defence Department of the day; this was an organisation of skilled operators to form a Wireless Reserve within the WIA to be of service where and when required. It arose from the desire of the WIA to prove to the Government that the Australian wireless amateur was more than an enthusiast who delighted in experimenting. It was an immediate success attracting hundreds of members who also became members of the Royal Australian Airforce.

Its first 'trial' was to provide communication for the Sydney to Perth Air Race held by the RAAF in 1929. The scheme called for transmitting and receiving equipment at the site of all aerodromes along the route and this was set up by the Wireless Reserve personnel together with auxiliary 'guard stations' in each State. Max Howden was the operator of the 'guard station' for Victoria.

He also designed and installed a portable transmitter and receiver in the plane which preceded the aircraft competing in the race. The story is an article in itself and occupied over two pages of the 16th October edition of the Melbourne "LISTENER IN". Suffice to say that the event was highly successful and ensured the continuation of the WIA Wireless Reserve Scheme, many of its operators taking up commissioned rank in the communication sections of the armed forces at the outbreak of World War II.

Space and time does not permit of expounding further on Max Howden's contributions to the science of 'RADIO' as we know it today for in detail it would fill a book. Perhaps the nostalgia of this short article, whilst being still within the memory of some Old Timers, may assist the modern day amateur to understand a little more of how difficult a task was faced by the pioneers of radio who were dedicated to exploring the unknown and largely constructed all their own equipment and learned more and more about the science as they did so. Max Howden was one of many.

Perhaps Mr C R Brandish who wrote the article for the Melbourne Herald weekly publication "TABLE TALK" in the "Prominent Personalities" column in 1925, and for which illustrator L F Reynolds drew the accompanying living likeness cartoon of Max Howden in his prime, got close to describing the temperament of the man . . .

"A curious man, with a face paled by long vigils and with eyes lighted by the fanaticism of one who has dedicated a life to a passion. The technics of wireless slip off his tongue as glibly as the prayers of a Buddhist monk, and I doubt if he has, in recent years, ever mentioned any other subject with animation. He has the strange gift of concentration on one thing which marks men of high talent."

Vale Max Howden, VK3BQ, 18th May, 1980

AR

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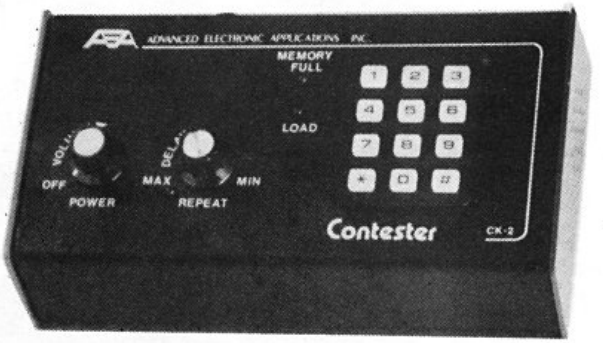

CK-2

Speed 1 to 99 WPM
500 character memory
Auto contest serial number
Selectable dot and dash memory
Repeat message mode
Message editing
Calibrated speed to 1 WPM
Semi-auto mode
Calibrated beacon mode ***$186.72 + P&P***

MBA-RO

32 character readout
Ascii, Baudot, RTTY and CW
Speed range in CW to 99 WPM
Dual filters 170 Hz and 425 Hz
13 VDC ± 2 VDC at 500 mA.
Ideal for intruder watch
No receiver modification
Check your own CW sending

$300.37 + P&P

WORLD PRESS SERVICES FREQUENCIES

Worldwide radio telytype news stations
3 complete station lists viz
*by transmitting time
*by frequency order
*by country and press service

$8.74 + P&P

The BC 348 Classic Communication Receiver

Allan Shawsmith, VK4SS
35 Whynot Street, West End Brisbane 4101

Many people, engaged in a variety of pursuits, benefited in a number of ways from the huge quantity of high quality disposals equipment available as a result of WWII. None did better than the amateur radio operator; the list of surplus electronic gear to be obtained for a minimum outlay in dollars ran to pages upon pages. Most of it required modifications for optimum performance on the amateur bands but these were usually so minor they presented no real problems. The BC 348 was one of the more popular makes on the market, mainly because it could be put to use almost as was — however, most amateurs preferred to carry out their own particular alterations, depending upon need or fancy.

ORIGIN

This receiver, widely used in most American and many British aircraft from 1942 onwards, was mass produced in the United States by numerous sub-contractors. Their identity may be ascertained from the suffix to the type-number on the front panel; eg BC348J comes from Wells-Gardner. Several detail differences occur in models from the various 'stables', viz. Some versions incorporate an aerial alignment trimmer, while others do not. Basically, however, almost all versions conform with the details given below:

BASIC CIRCUIT

Two RF amplifiers, both 6K7
First detector 6L7
Separate local oscillator 6C5
First IF amplifier 6K7
Second IF amplifier and beat frequency oscillator 6L7
Third IF amplifier and second detector 6B8
Output valve 6K6
Voltage regulator to oscillator valve RCA991

COMMENT: This valve line-up is a representative one, although numerous permutations occur among different models. In one version, the CW oscillator is combined with the second detector and there are two IF stages. In another, the luxury of three IF stages is achieved by putting the CW oscillator on to the second IF, while the second detector and third IF are combined in one valve. The importance of securing the correct circuit diagram for the particular model purchased is self-evident. The claimed sensitivity for the three IF version is as good as 3 to 7 microvolts overall on all bands, this for 10 milliwatts output into a 4000 ohm load.

Having 200-500 kHz available makes the set ideal for use with an RF band switched converter. The band spread is such (1 dial turn = 2 kHz) that it is ideal for SSB reception (provided a suitable product detector is included), Also, the stability on this band is rock-like. If used for this form of reception, with an external converter, this latter unit must have an independently tuned RF + 1st converter so as to peak and track with the tuning in the 200-500 kHz band.

WAVERANGES COVERED

Band No 1 200-500 kHz
Band No 2 1.5-3.5 MHz
Band No 3 3.5-6.0 MHz
Band No 4 6.0-9.5 MHz
Band No 5 9.5-13.5 MHz
Band No 6 13.5-18.0 MHz

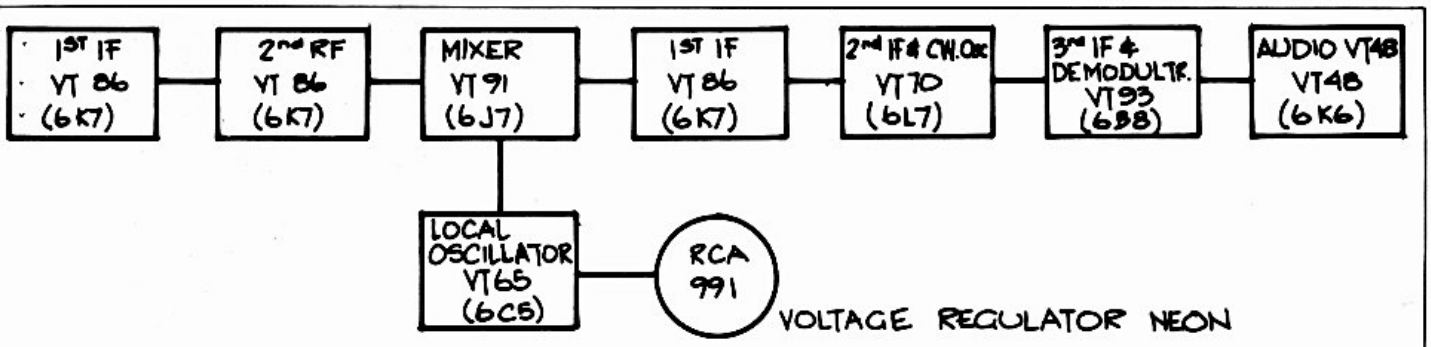

Fig 1 — Block Diagram showing the Basic BC348 Circuit Arrangements.

POWER REQUIREMENTS

In its original condition the BC348 comes with a 28 volt dynamotor that is likely to be of little or no value to the average enthusiast.

COMMENT: The space made available when the dynamotor is removed will comfortably accommodate a mains power unit of sufficient size to deliver the 200 volts at 50mA and 6.3 volts at 2.5A required by this receiver. A slightly larger mains power supply unit can be installed if a reserve is required for external converters or a crystal calibrator.

CONTROLS

In the centre is the bandchange knob. The range in use is registered in the dial window above it. Below is the reduction-drive tuning knob actuating a four-gang capacitor: to the left, gain control and CW oscillator pitch control. Above them: the crystal gate switch and the CW oscillator on/off switch. Extreme left: manual or automatic gain control lever switch. Top right: dimmer for dial lights. Far right: aerial alignment control (when fitted).

COMMENT: The BC348 earns high marks for the intelligent placement of controls. While the right hand rotates the tuning knob, either directly or with the little handle fitted to it, the left hand has all other needful user-controls within short reach. No cross-hands performance is called for.

Being a general coverage receiver the BC348 does not offer electrical bandspreading of the type required for use on the crowded amateur bands. Those bands occupy on the tuning scale 1 inch (1.8 MHz), 2 inches (3.5 MHz), ½ inch (7 MHz), and 1½ inches (14MHz). However, the order of tuning knob rotation called for, to cover each of these bands is:

BAND	REVOLUTIONS
1.8 MHz	10
3.5 MHz	16½
7.0 MHz	4½
14.0 MHz	8

It might be added, that when the receiver is used as a 4-6 MHz IF strip for a 144-146MHz converter, this span of 2MHz is covered in no less than 66 revolutions.

RECOMMENDED BASIC MODIFICATIONS

HEATERS: In the original model with 28 volt dynamotor, the valve heaters are wired in a complex series-parallel arrangement to allow 6.3 volt valves to operate from 28 volt aircraft batteries. It is recommended that the existing heater wiring (generally pins 2 and 7 on IO valve holders) be removed and a complete re-run made to parallel all heaters for 6.3 volt operation from a mains power unit.

AERIAL INPUT: Because most receivers will be fed from an aerial tuning unit via low impedance cable, it is recommended that the existing aerial terminal be removed and replaced by a Belling-Lee co-axial socket.

USE WITH EXTERNAL CONVERTER: The provision of a coaxial imput circuit is especially essential when the BC348 is fed from a converter, to minimize IF breakthrough.

SEPARATING THE GAIN CONTROLS: To facilitate reception of SSB signals it is desirable to fit separate AF and RF gain controls. In the original, there are two ganged potentiometers of 20,000 ohms (front) and 350,000 ohms (rear) operated simultaneously by the front panel gain control knob. It is no difficult matter to disconnect the 20,000 ohm potentiometer — it controls the second RF stage — and reposition it in place of the dial light dimmer, not generally required.

GAIN EQUALIZER: In some models a variable resistor rotates with the gang-capacitor shaft. Its purpose is to equalize the gain over the entire tuning range. It may be removed with profit.

CAPACITORS — A WARNING: Most BC348 receivers purchased today will be at least 40 years old and some deterioration in the condition of the fixed capacitors may have occurred. This will sometimes be self-evident, either through failure of a stage or stages to function, instability or more dramatically by short-circuits on the HT line. To disconnect and test every one of the dozens of capacitors in this model is a tedious business but probably worthwhile in the long run.

SELECTIVITY: The IF strip is aligned at 915 kHz. While this particular frequency is OK for SSB reception and helps eliminate or reduce unwanted images, some may deem this as unsuitable for CW reception, even though the crystal filter, when in circuit, produces a single signal only. For these CW 'buffs', the addition of an external audio filter will provide all the selectivity the most critical ear would need.

"S" METER: Another modification that can be carried out to advantage is the inclusion of an "S" meter. This can be separately housed in a small metal box set on top of the BC348 and fed from a cable via the front or rear panels — or mounted on the front panel. If the latter, it will be necessary to cut or drill out a hole to suit the meter. This is not a difficult job, as aluminium is a soft metal. When drilling, place a clean rag inside the set behind the panel to catch any small metal fragments. Space does not permit a detailed explanation of the circuit modification but it is commonplace and shown in many journals and handbooks.

AUDIO OUTPUT: The 6K6 output tube delivers enough audio to drive a small speaker, as well as the phones; however, most replace this valve with a power pentode, or add it to the 6K6 for full 3 watts output. The audio quality is exceptionally good. The slightly wider than average 915 kHz IF no doubt contributes to this.

The BC348 and its close cousins BC312 etc were, for the period (1942), outstanding communications receivers in all departments of design, construction and performance and fully deserve the title CLASSIC. **AR**

WHAT IS THE HISTORICAL SOCIETY OF AUSTRALIA?

Historical Radio Society of Australia
49 Sharon Rd, Springvale 3172. Phone (03) 546 5558

The Historical Radio Society of Australia was formed on 17th April, 1982, to cater for the needs of those interested in preserving the equipment and records of past times in radio, especially in this country. It is a non-profit society with members in every state of Australia.

A quarterly newsletter is distributed to members, and members are encouraged to contribute such items as tips on restoration of equipment, information on early equipment and memories of the days when radio was the wonder of the world. The activities of the Society and its members also form subject matter for the newsletter, while a free advertising service is available for purposes within the scope of the Society's objectives (such as the sale or exchange of surplus vintage equipment).

Meetings are held in Melbourne about four times a year, and members in other areas are encouraged to hold their own meetings. The Society has also participated in the Bendigo National Swap Meet, and intends to make this a regular activity, for as long as members are anxious to participate.

The annual membership fee, at present is $7.50 a yr, covers the twelve month period from July to June, and members who join during the year will receive copies of all newsletters issued during that year.

Membership of HRSA now stands at over one hundred and is steadily increasing. This is an excellent beginning and means that the Society is here to stay — as Australia's first formed such group.

There is no need to own a collection of one sort or another to be eligible for membership — just as long as your interest in early wireless is bona fide, you are invited to join. Write in the first instance for a membership form to the Secretary whose address is given above.

Alan Shawsmith, VK4SS

This article was compiled by Frank Bridgewater, VK2ZI, relating some of his experiences during his interest in radio which spans sixty two years.

Reminiscing Sixty Two Years of Wireless

Frank Bridgewater, VK2ZI
31 Williams Street, Broken Hill, NSW 2880

My interest in wireless dates back to 1921, when at the age of fourteen and a half I made my first crystal set. Later of course I had a ball with valve sets, to use a modern expression.

Late in 1922, I came to Australia and went to work on Eyre Peninsula in the farming business. Before I left England the officials in Australia House had assured me that there would be plenty of tractors for me to be interested in and work on when I arrived in Australia, but sad to say, where I worked on the Eyre Peninsula, at Woodna, I don't think there was a tractor within 300 miles. Furthermore, my employers hadn't even heard of wireless and when I tried to tell them about the wonderful happenings in England, and 2LO, they frankly didn't believe me.

After three years on Eyre Peninsula, I travelled to Adelaide and gained employment with a firm which is now extinct. It was located in Rundle Street, precisely where Myer's are today, and that firm had a wireless department. The Manager was Jack Chesterfield, a well-known operator for AWA in those days, and he had been at Willis Island, I believe, for some time. I stayed in that department for several months, and also used to frequent the studios and the transmitting room of the original 5CL — Central Broadcasters Ltd, which was located in the Grosvenor Hotel, in North Terrace, Adelaide. The Chief Engineer was Ern Gunner, and the Manager/Announcer was Mr Bill Smallwickham.

In October, 1927, I left Adelaide and went to Sydney for greener fields, and in March, 1928 I went back to England on an extended holiday through Europe, United States, New Zealand, and back to Australia, where once again I entered into the world of wireless, or, as it was gradually beginning to be called — radio.

On the 26th September, 1932, I met with an unfortunate accident. An explosion at my home of an ammonia-type refrigeration unit, sent me totally blind. This happened three days before my twenty sixth birthday. I was in hospital for eight weeks or so and felt that I would never be able to work with wireless again, and was wondering what I was going to be able to do with my life. However, fortunately, a customer, whom I'd made a set for, lived only a couple of blocks away from where I was living, and they had a break-down in their set, only a few days after I'd come home from the hospital. After being persuaded by the lady to come and take a look at their set, (which I was quite sure I wasn't going to be able to do anything about) — I was lucky. The problem was only a broken lead off the end of a battery, which of course, I was able to clean up, poke in the right place, and away it went, and so did I! They took me back home and I went straight up the yard to the wireless shack, that I thought I'd never be able to operate in again, and got busy.

In 1933, the PMG's Department granted me a special experimental radio licence to operate, with some special conditions.

The Zero Beat Radio Club, of which I was the foundation Vice-President, undertook to put glass doors over the front of the cabinet, where my breadboard rig was to be located, with a safety switch to cut the power off if the doors were open — to make sure that I didn't get any nasty bites! The callsign allotted to me was VK2ZO.

Photo by Bill, VK2HZ

Frank's station in 1933 when he was VK2ZO.

There are several members of the old Zero Beat Radio Club still alive, one that I recall having worked this year, is Geoff VK2UA. Some six or eight months after getting the station established and operating on 80, 40 and 20 m we received a permit to operate on the broadcast band after the commercial stations had closed down.

Alan VK2WR, Morris VK2FV of Tuross Heads, Geoff VK2CAS and Bill VK2HZ, VK2 Division Secretary at the time, were some amateurs involved in operating on the Broadcast Band.

During this time I operated a public address business, however, by 1948 Sydney was becoming too much of a rat race, everything closed down, the public address business was sold, and I migrated to Broken Hill, where I had no opportunity of using amateur radio because of being involved in an entirely different type of business which demanded very long working hours. Furthermore, there wasn't enough room for the radio.

Twenty three years later, I decided to get back into amateur radio . . . on applying for the ticket and callsign, it was refused. Eventually I was successful again, having passed a special examination satisfactorily, and accordingly I asked for a callsign as close to the old one as possible. VK2ZI was available and here we are. I'm well and truly retired now and on the way towards seventy seven, but still having a ball with amateur radio and especially on the satellites.

The present day station.

Well, there you have a brief resume of sixty two years involvement in wireless/radio and this year is the celebration of my fiftieth anniversary of my first callsign and I believe I was the first totally blind operator in VK2.

AR

Man, this Super High Frequency stuff is sure hard to handle. by VK2EBM

TOWER SAFETY

With good weather approaching many will be working on their antenna towers. Here is a timely tale from the Sterling-Rock Falls Newsletter by an unknown author and contributed by Soupy W5NW.

The scene opens upon an amateur sitting at his desk contemplating how he should answer a letter from his insurance company. Eventually this is his reply . . .

I am writing in response to your request for additional information in block number three of the accident reporting form. I put "poor planning" as the cause of my accident. You said in your letter that I should explain more fully, and I trust that the following details will be sufficient.

I am an amateur radio operator. On the day of the accident I was working alone on the top section of my new 80 foot tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up about 300 pounds of tools and spare hardware. Rather than carry the now unneeded tools and material down by hand, I decided to lower the items down in a small barrel by using a pulley, which fortunately was attached to the gin pole at the top of the tower.

Securing the rope at ground level, I went to the top of the tower and loaded the tools and material into the barrel. Then I went back to the ground level and untied the rope, holding tightly to insure a slow descent of the 300 pounds of tools. You will note in block number eleven of the accident reporting form that I weigh only 155 lbs.

Due to my surprise at being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say I proceeded at a rather rapid rate of speed up the side of the tower. In the vicinity of the 40 foot level I met the barrel coming down. This explains my fractured skull and broken collarbone. Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep into the pulley.

Fortunately by this time, I had regained my presence of mind and was able to hold onto the rope in spite of my pain. At approximately the same time, however, the barrel of tools hit the ground and the bottom fell out of the barrel. Devoid of the weight of the tools, the barrel now weighed approximately 20 pounds. I refer you again to my weight in block number eleven. As you might imagine I began a rapid descent down the side of the tower. In the vicinity of the 40 foot level I met the barrel coming up. This accounts for the two fractured ankles and lacerations of my legs and lower body.

The encounter with the barrel slowed me enough to lessen my injuries when I fell onto the pile of tools and, fortunately, only three vertebra were cracked. I am sorry to report, however, that as I lay there on the tools in pain, unable to stand, and watching the empty barrel 80 feet above me . . . I again lost my presence of mind. I let go of the rope.

AR

INTERNATIONAL NEWS

ITU CONFERENCE

World Administrative Radio Conference for the planning of the HF Bands allocated to the Broadcasting Service.

The first session of this conference will be held in Geneva for five weeks, beginning in January 1984.

The Administrative Council of the ITU has resolved that the planning be based on DSB emissions and that consideration shall also be given to the manner in which an SSB system could be introduced progressively without impairing the DSB emissions, taking into account the economic and other aspects associated with the introduction of an SSB system.

The agenda of the first session covers the establishment of the technical parameters to be used for planning and the principles governing the use of the HF bands allocated to the Broadcasting Service.

And also the establishment for use by the second session, which is set down for October/November 1986 of planning principles, method of planning and approaches to implementation. Also a programme for progressive introduction of SSB transmissions; and the action necessary to eliminate harmful interference, and the theoretical capacity of any given high frequency broadcasting band.

The Administrative Council of the ITU considers that the revision of the table of frequency allocations is not within the mandate of the Conference except those footnotes relating to the high frequency bands allocated exclusively to the Broadcasting Service.

CONGRATULATION TO TOM CLARKSON, ZL2AZ

Tom was awarded the MBE in the New Zealand section of the Queen's Birthday Honours List published on 11 June, 1983. He is well-known as a former Director of IARU Region 3 and was a member of the WARC 1979 IARU team. The award is for "services to amateur radio".

ACTIVITY IN SYRIA

The Syrian Radio Amateurs shall be using a new prefix to celebrate the World Telecommunication Year.

Four stations will be operating in all bands with the callsigns of 6C1AA, 6C1AM, 6C1AN and 6C1AO. Operation will be during the period of 00.00 UTC Saturday, October 15, 1983 until 24.00 UTC Friday, October 21, 1983. During this period no stations in Syria will be using the YK prefix.

NEWS FROM BOTSWANA

The first Botswana novice amateur transmitting licences were issued at the end of January, 1983.

As a result of correspondence with the IARU, Botswana are expecting to receive a Heath SB-104A SSB HF transceiver, for use in the BARS hut. It is understood that the transceiver was donated to the IARU for use "in a country where there is not much amateur activity".

Also on the way from the IARU are 10 "Project Goodwill" 20 m transceiver kits, which will be constructed as part of the Novice classes at the BARS hut, and additional teaching materials.

COMMEMORATION TIME FOR BELGIUM

KNOKKE, Canada-City 1" in Belgium, will spend a week in the sign of the Maple Leaf, national emblem of Canada: the Canada that thirty nine years ago sent out its sons to this region.

Organisation of the Canadian Liberation March is in the hands of the local lore "CNOC IS IER" with the co-operation of the Canadian Embassies of Den Haag and Brussels, the Red Cross, the National Patriotic Organisations, the Town Councils of Terneuzen, Oostburg, Sluis and Knokke-Heist, the brass band "De Zeegalm, Feestkring Oud-Knokke-Heist", the brass band "De Zeegalm, Feestkring Oud-Knokke", Willemsfonds Knokke and the radio amateurs from the East Coast.

Every year an attempt is made to have veterans flown in from Canada, and a platoon of Canadian Engineers become the guests of Liberation Week.

Gerard Adrianssens, Gaspar Warnier and Danny Lannoy, representatives of the organising team, stand in the breach to give the Canadian soldiers and veterans a pleasant stay. As 1983 is the YEAR OF COMMUNICATION the local radio amateur Club Station ON6HC will be stationed in the Townhall of Knokke during the period of the 28th October until the 2nd of November, 1983. The Minister of PTT has been asked to grant a special callsign during this week.

A splendid multi-coloured award will be issued to confirm each QSO or SWL report. Applicants must send their own QSL cards.

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NORTHERN CALIFORNIA DX FOUNDATION TWENTY METRE BEACONS

Monitor 14.100 MHz any time, day or night, for 10 minutes and see how many of the eight worldwide power-attenuating beacon net stations you can hear as they transmit automatically one after the other. In that short time, you can get a quick, general appraisal of the various 14-MHz paths that may (or may not) be open around the world, and the direction and the quality of the opening.

NCDXF BEACONS TRANSMITTING SEQUENCE

Time	*Station*	*Location*
0000	*4U1UN/B*	*United Nations, New York*
0001	*W6WX/B*	*Standford University, California*
0002	*KH6O/B*	*Honolulu Community College, Hawaii*
0003	*JA2IGY/B*	*JARL, Mt Asama, Japan*
0004	*4X6TU/B*	*Tel Aviv University, Israel*
0005	*OH2B*	*Helsinki Technical University, Finland*
0006	*CT3B*	*ARRM, Madeira Island*
0007	*ZS6DN/B*	*Transvaal, South Africa*

Same sequence repeats every 10 minutes. Beacons are crystal-controlled and are on 14.100 MHz. First "Q" of each beacon's "QST" begins within a fraction of a second of the assigned time, plus or minus human starting error. The sequence may vary as more beacons are added to the net.

TEXT TRANSMITTED BY EACH BEACON

Power Level	*CW Message*
100 W	*QST de (W6WX/B) beacon*
100 W	*· ——— 9-second dash*
10 W	*· · ——— 9-second dash*
1 W	*· · · ——— 9-second dash*
0.1 W	*· · · · ——— 9-second dash*
100 W	*SK (W6WX/B)*

Transmission time: ± 58 seconds
Speed: 20+ WPM
Power attenuated in 10 dB steps.

The beacon net was organised and financed by the Northern California DX Foundation (NCDXF). The overall beacon transmitter concept and RF power-level switching was designed by Dave Leeson, W6QHS. Jack Curtis, K6KU, of Curtis Electro Devices, designed the clock, the microprocessor and the programming components. The engineering, production and packaging was done by Cam Pierce, K6RU.

adapted from QST June 1983

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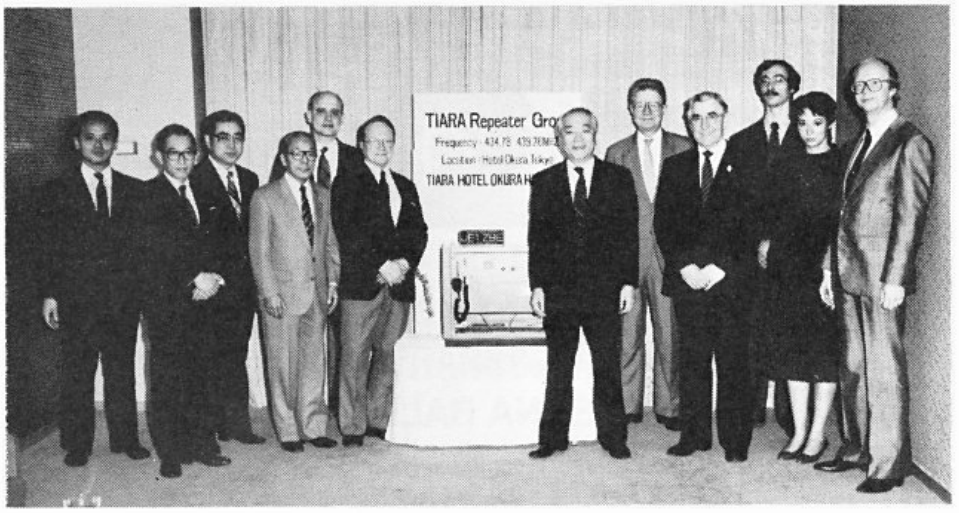
TIARA FOREIGN AMATEUR REPEATER IN TOKYO

In April 83, the Tokyo International Amateur Radio Association (TIARA) held a party to celebrate the approval, thanks to support from the JARL, of its application for a foreign amateur repeater in Tokyo. Shown in the photo from left to right are: Makoto Miyazaki, JN1WLE (Okura Hotel Amateur Radio Club); Keiichi Ogo, JG1SIY (President Okura Hotel Amateur Radio Club); Yasuo Hashimoto, JI1TUY (Okura Hotel Amateur Radio Club); Yutaka Kasahara, JA1CLN (JARL Manager External Affairs); Joe Speroni, AH0A (President TIARA); Richard L Baldwin, W1RU (President IARU); Shozo Hara, JA1AN (President JARL); Edward Johnson, W2ZWA (Vice-President TIARA); John Donald G4JFM (TIARA); Andrew Clark, WA4PRF (TIARA); Rossella Strom, I1RYS (TIARA); Kjell Strom, SM6CPI (Secretary TIARA).

The repeater operates on 434.78 (in)/439.78 (out) and is located on the new wing of the Okura Hotel in Akasaka Tokyo, about 75 metres above ground. An 88.5 Hz sub-audible tone is required for access. The location is central to the business area and convenient for the foreign community living in or just visiting Tokyo. The Okura Hotel is also the meeting place for TIARA.



TIARA is a group of eighty foreign amateurs from fourteen countries living in Japan. First organised in 1970 it has grown steadily and over the years assisted many foreign amateurs in getting on the air in Japan. Visitors are welcomed at meetings which are usually held on the last Friday of the month. TIARA's mailing address is — TIARA, PO Box 119, Akasaka, Minato-ku, Tokyo 107/Japan.

Tokyo International Amateur Radio Association

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THE SOUTH EAST RADIO AMATEUR NETWORK

SEAnet is an informal group of radio amateurs which meets every day at 1200 hours UTC on a frequency of 14.320 MHz. The purpose of the net is to provide for the comradeship obtained in talking to one another 'on the air'. More than a hundred amateurs from South East Asia, Japan and the Pacific area, the Middle East, Australia and Africa check in.

In 1971, about twenty five of these amateurs met in Penang, Malaysia for the first time. They decided that an annual SEAnet convention should be arranged by the South East Asia region every year for the amateurs to meet one another. Since then, conventions have been held in Bangkok three times, Singapore twice, Manila twice, Kuala Lumpur, Jogyakarta, Jakarta and Penang once each.

The convention normally has an informal programme covering matters of interest to the science of amateur radio, discussions on the operation of SEAnet, commercial exhibits, visits to places of interest and a grand banquet.

This years convention is being hosted by the Singapore Amateur Radio Transmitting Society on 18th-20th November, 1983.

PROVISIONAL PROGRAMME

Friday 18 November
Afternoon: Registration
Evening: Opening Ceremony
Exhibition & Display
Buffet Dinner
Saturday 19 November
Morning: Tours & Visits
Afternoon: Symposium
Evening: Grand Banquet
Sunday 20 November
Morning: Open Forum & Brunch
Closing Ceremony

CONVENTION HIGHLIGHTS

SEAnet Contest Awards
SEAnet Station
Exhibition and Display
"SEAnet SONG" Contest

LIST OF FOUNDING DATES OF MEMBERS TO IARU

as at May 12, 1983

SOCIETY	COUNTRY	YEAR OF JOINING
WIA	Australia	1910
RSGB	United Kingdom	1913
ARRL	USA	May 18, 1914
CRRL	Canada	1920
SRAL	Finland	Apr 14, 1921
RCA	Argentina	Oct 21, 1921
RCC	Chile	July 12, 1922
GRC	Ecuador	May 9, 1923
UBA	Belgium	1923
REF	France	Apr 1925
SARL	South Africa	May 25, 1925
SSA	Sweden	Sept 10, 1925
OVSV	Austria	Apr 1926
RCD	Dominican Republic	June 12, 1926
JARL	Japan	June 12, 1926
NZART	New Zealand	Aug 16, 1926
ARI	Italy	Jan 1, 1927
EDR	Denmark	June 1927
DARC	Fed Rep of Germany	1927
NRRL	Norway	Aug 8, 1928
USKA	Switzerland	Aug 4, 1929
HARTS	Hong Kong	Oct 1929
PZK	Poland	Feb 23, 1930
RCP	Peru	Dec 6, 1930
LMRE	Mexico	Jan 10, 1932
PARA	Philippines	Nov 1932
IRTS	Ireland	1932
LCRA	Colombia	Aug 13, 1933
MARL	Malta	1933
RCU	Uruguay	1933
LABRE	Brazil	Feb 2, 1934
CORA	French Polynesia	1934
FRR	Romania	1936
RL	Luxembourg	Mar 7, 1937
JARA	Jamaica	Feb 17, 1939
RCB	Bolivia	Mar 1, 1940
RCP	Paraguay	Jan 23, 1941
CREN	Nicaragua	Sept 15, 1945
VERON	Netherlands	Oct 21, 1945
TIR	Syria	1947
VERONA	Netherlands Antilles	Jan 6, 1948
RSB	Bermuda	Oct 15, 1950
RAL	Lebanon	1950
TTARS	Trinidad and Tobago	1951
RKDDR	German Democratic Rep	Feb 6, 1953
MARTS	Malaysia	Mar 10, 1953
RCCR	Costa Rica	Sept 30, 1953
ARM	Monaco	1953
ARSI	India	May 14, 1954
RSF	USSR	Dec 1959
NARS	Nigeria	1961
LRAA	Liberia	1962
RAST	Thailand	Nov 27, 1963
ARA	Algeria	1963
ABARS	Antigua and Barbuda	1965
ARRAM	Morocco	June 19, 1966
WSARC	Western Samoa	1968
ARAB	Bahrain	Sept 21, 1970
CARS	Cyprus	1972
ROARS	Oman	1972
SLARS	Sierra Leone	1975
ARAD	Djibouti	Apr 30, 1979
BARL	Bangladesh	May 20, 1979
ARRSM	San Marino	Apr 15, 1980
LARS	Lesotho	Nov 4, 1982

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VE3CJ ELECTED AS PRESIDENT EMERITUS

The International Amateur Radio Union now has a President Emeritus: Noel B Eaton, VK3CJ. Seventy three member societies cast affirmative votes on the Proposal No 173, which the Headquarters made in the light of a recommendation adopted by the Manila Conference of the IARU Region 3 Association.

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THREE NEW BANDS AT 10, 18 AND 24 MHz

The IARU Member societies of the following countries have notified the Headquarters of the availability of new bands for their use.

10.100-10.150 MHz: Algeria, Australia (less 10.1375-10.1455), Austria, Bermuda, Botswana, Canada, Cayman Islands, Colombia, Costa Rica, Denmark, Djibouti, Commonwealth of Dominica, Faroe Islands, France, Fed Rep of Germany, Honduras, Indonesia, Israel, Japan, Luxembourg, Malaysia, Malta, Monaco, Netherlands, Netherlands Antilles, New Zealand (10.100-10.125 and 10.135-10.150), Nicaragua, Nigeria, Norway, Panama, Papua New Guinea, San Marino, Solomon Islands, South Africa, Spain (10.1075-10.1135), Suriname, Switzerland, Syria, Tonga, Trinidad & Tobago, United Kingdom, USA (10.100-10.109 and 10.115-10.150), Western Samoa, and Yugoslavia

18.068-18.168 MHz: Algeria Australia (less 18.071-18.079, 18.101-18.109, 18.121-18.134, 18.141-18.149 and 18.156-18.164), Austria, Botswana, Cayman Islands, Colombia, Costa Rica, Denmark, Djibouti, Faroe Islands, France, Fed Rep of Germany, Honduras, Monaco (less 18.103-18.116, 18.129, 18.135 and 18.165), Netherlands, Nicaragua, Nigeria, Norway, Oman, Panama, San Marino, South Africa, Switzerland, Syria, Tonga, Trinidad & Tobago, United Kingdom, and Yugoslavia.

24.890-24.990 MHz: Algeria, Argentina, Australia (less 24.896-24.904), Austria, Botswana, Cayman Islands, Colombia, Costa Rica, Denmark, Djibouti, Faroe Islands, France, Fed Rep of Germany, Honduras, Monaco, Netherlands, Nicaragua, Nigeria, Norway, Oman, Panama, San Marino, South Africa, Switzerland, Syria, Tonga, Trinidad & Tobago, United Kingdom, and Yugoslavia.

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HF TRANSCEIVER

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~~TS-430S~~ **43-X HF TRANSCEIVER**

NOTICE TO ALL HAMS

To comply with the new Government regulations the **TS-430S** will be known as the **43-X** and the **TS-930S Mark II** will be known as the **93-X Mark II.**

These are not new world models and are for Australian sales only.

The performance and features are identical to the present model numbers and the only difference is that the out-of-Amateur band transmissions are no longer possible. However the Receiving section is totally unchanged.

All equipment capable of transmitting outside of the Amateur Bands rate a 30% duty and this equipment is not in the spirit of Amateur Radio.

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WASIL ELECTRICAL — 71 SUMMER STREET, ORANGE (063) 62 6249
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S.A. & N.T.: INTERNATIONAL COMMUNICATIONS SYSTEMS PTY. LTD. — 8 NILE ST., PORT ADELAIDE (08) 47 3688
W.A.: ARENA COMMUNICATIONS SERVICES — 642 ALBANY HWY., EAST VICTORIA PARK (09) 361 5422
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WILLIS ELECTRONICS — 445 MURRAY STREET, PERTH (09) 321 2207
BAY RADIO — 18 BANKSIA STREET, BUNBURY (097) 21 2236
RON DENT — 115 PATON ROAD, SOUTH HEADLAND (091) 72 1112
SELECT TRONIX — TOM PRICE (091) 89 1564
FORD ELECTRONICS — 209 HANCOCK STREET, DOUBLE VIEW (09) 446 4705

HOW'S DX

Ken McLachlan, VK3AH
Box 39, Mooroolbark, Vic 3138

Postage increases of 11% plus effective this month, surely is sad news for the DXer and this will create a greater strain on the never tiring WIA QSL Bureau managers and their assistants. It is, more than ever, beneficial to have access to your divisional bureau so that you may despatch those cards expediently with a minimum of cost.

When one tots up the cost of despatching a card by post to an exotic overseas country, it becomes astronomical. A self addressed envelope, 2 IRC's at a minimum, an envelope to place it all in, time in addressing the envelope and that STAMP. It all adds up to a very tidy sum. With the bureau at ones disposal, the charges are minimal.

When one is placing a card through the bureau, it would be considerate to take a little care so that you may participate in the assistance of the sorting of thousands of cards in a year by adhering to the basics that are common to all bureaus.

The basics include accurate alphanumeric sorting of all cards that you intend to send and the callsign in 10mm high legible lettering of the designated station on the top right hand reverse side of the card.

Each VK QSL bureau has certain limitations and they have rules that vary from division to division. It is up to you, as a member, to inquire of the rules that are pertinent to your division and abide by them, so that the volunteer labour will not be overtaxed beyond the limits. A number of QSL Bureaus in overseas countries employ paid staff. One such country is JA, where some 25 people are employed in the inwards and outwards departments.

Whilst on the subject of QSLing, it was mentioned last year that, in conjunction with Jan and Jay's publication of the QSL Managers List, all bad QSLers would be printed. Unfortunately, very few VK's sent in any reports. Of those that did, no concrete evidence as to a non QSLing station was obtained and apparently the same happened to Jan and Jay, as they have not printed anymore. Perhaps the amateur fraternity on the whole is too lethargic.

One amateur from VK5 kindly submitted his list of successes and not so successful returns, and a quick glance shows that he has had about a 97 percent rate of return. Not the ultimate, but for this day and age, not a bad effort.

This amateur notes in his letter that he always sends a self addressed envelope and two IRC's. The list shows that some operators are very prompt, others tardy and very inconsiderate of their fellow amateur. It is known that one VK operator who jumped in to become a QSL manager, still owes cards to at least one VK3.

TURKEY

Still need TA on CW? Unal TA1UA, has been active on both fifteen and twenty metres. Generally to be found 25 to 30 kHz inside the band edge. If you are successful QSL direct to Unal Akbal, PO Box 787, Istanbul, Turkey and please no reference to the hobby on either envelope.

RARE ONES

Ed W4MGN, was at it again and operated from C5, 6W and 9U during one of his whirlwind trips to Africa. Ed has intimated that DX operations have come to a standstill in Gambia, due to all of the DXers having left the country. The remaining operators have only one interest and that is working back into the UK.

Burundi is changing too, in so much that Jean 9U5JM is expected to return home to France in the near future. His place may be taken by Jim N4HX. Jim has been appointed the American ambassador and hopes to obtain operating priviledges in the near future.

PRINCE WILLIAM

The unusual callsign GB1BOY was used on 21 June to celebrate Prince William's first birthday. This is another indication that the licensing authorities have taken a special view on their attitude towards special event stations. Let's hope that it will not become like VE, and we will have to learn to cope with learning new prefixes every couple of weeks.

UNUSUAL PREFIXES

The USSR authorities have really let their hair down and issued some very unusual prefixes in commemoration of World Communications Year.

Such prefixes as EM6, UU, 4J4 and 4K1 have been heard with poor band conditions, but at extremely good strength at this QTH on twenty metres. Some signals from these regions were subject to very strong flutter at times.

Not to be outdone, the Canadian stations, who operate under many prefixes with the least excuse have been using such exotics as CK4 and XJ3 around the bands.

MALPELO ISLAND

Latest information is that the DX group will make it and they will commence around the 12th of this month. Like others I will be queueing up to work this one as it has escaped me over the years. Good luck to all those that need it for a new one. To those that have it confirmed and claimed on their DXCC score, please stand aside and let the stations that need it for a new country work it first.

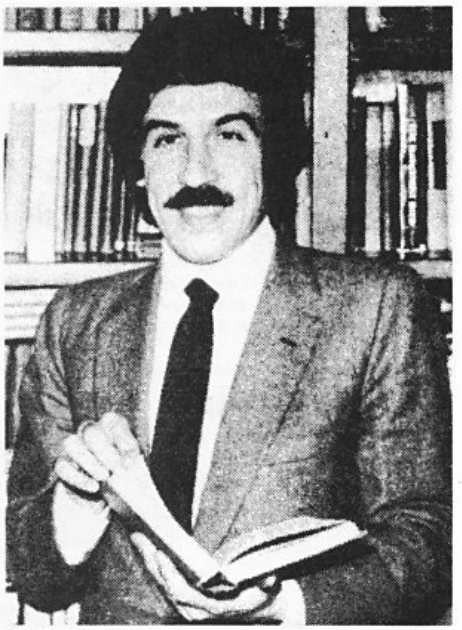
NO LICENCE

A recent application by an amateur for permission to operate in A51 was turned down by the authorities with the explanation that there is no legislation to permit amateur radio operations by non nationals.

Pradhan A51PN looks like the only hope to those wanting this country, and the chances of him appearing in the near future are very slim.

KNIGHTS OF MALTA

Don't overlook the operation from this rarely activated area scheduled for this month. Mario I0MGM, the station's QSL Manager, should have 1A0KM on the air from all accounts.



Mario I0MGM Photo courtesy W6VGQ and World Radio.

ASSIGNMENT OF US CALLSIGNS

Ever wondered what that strange callsign was that was emanating from the United States. I have, and Bob W5KNE, Editor of QRZ DX has kindly put me right, and sent me a full list which has been reprinted for your benefit.

PUBLIC NOTICE ISSUED ON AMATEUR RADIO CALLSIGN ASSIGNMENT SYSTEM

The FCC has issued a bulletin pointing out that even though they mentioned in April 1978 that they would not be reissuing unassigned callsigns for five years, *no plans are being considered "to establish a schedule in the foreseeable future for reassignment of any callsign."* The FCC did say, however, that they were "extending the period in which secondary callsigns may be assigned to primary stations." Also, any callsign can now be renewed within two years after expiration. The new prefix block "KP5" has been set aside for Desecheo Island.

CALLSIGN ASSIGNMENT ORDER...
Extra Class (Group A)

Advanced Class (Group B)

Technician/General (Group C)
Novice Class (Group D)

CONTINENTAL UNITED STATES
KA#A-KZ#Z; NA#A-NZ#Z; WA#A-WZ#Z; AA#AA-AK#ZZ (Except: KH,KL,KP,NH,NL,NP,WH,WL,WP.)

KB#AA-KZ#ZZ; NA#AA-NZ#ZZ; WA#AA-WZ#ZZ (In 1-lands: 1st block=KA1AA-KZ1ZZ - Same Exceptions)

N#AAA-N#ZZZ; W#AAA-W#ZZZ (No Exclusions)

KA#AAA-KZ#ZZZ; WA#AAA-WZ#ZZZ (Except: KH, KL, KP, WC, WH, WK, WL, WM, WP, WR, WT).

NON-CONTIGUOUS U.S.A.
(Extra) Pacific Area = AH#A-Z, NH#A-Z, WH#A-Z; Alaska = NL7A-Z, WL7A-Z, AL7A-Z; Atlantic Area = KP#A-Z; NP#A-Z; WP#A-Z; (Advanced) Pacific Area = AH#AA-ZZ; Alaska = AL7AA-ZZ: Atlantic Area = KP#AA-ZZ (Tech/Gen) Pacific Area = KH#AA-ZZ, NH#AA-ZZ, WH#AA-ZZ; Alaska = KL7AA-ZZ, NL7AA-ZZ, WL7AA-ZZ; Atlantic Area = NP#AA-ZZ; WP#AA-ZZ (Novice) Pacific Area = WH#AAA-ZZZ; Alaska = WL7AAA-ZZZ; Atlantic Area = WP#AAA-ZZZ

NUMERICAL DESIGNATORS FOR NON-CONTIGUOUS U.S.A.

DIGIT	LOCATION
1	Baker, Howland Island
2	Guam
3	Johnston Island
4	Midway Island
5	Palmyra Island
5K	Kingman Reef (K Suffix)
6	State of Hawaii
7	Kure Island
8	American Samoa
9	Wake, Wilkes, Peale Islands
0	Commonwealth of Northern Mariana Islands
7	State of Alaska
1	Navassa Island
2	Virgin Islands
4	Commonwealth of Puerto Rico
5	Desecheo Island

Note: Designator: *"3" has been discontinued. Previously assigned to Roncador Cay, Quita Sueno Bank and Serrana Bank.*

So we hope that it is now a little clearer than it was before and thanks Bob.

IDENTIFICATION

On browsing through the Royal Omani Amateur Radio Societies newsletter (ROARS) mention is made of a new membership requirement. This requirement is an identification card for each member. To be an amateur or SWL in Oman you must be a member of the society.

This move has been brought about by the number of pirate operations emanating or purported to emanate from Oman. Another measure is the identification of equipment to the society, with such details as the exact location of the equipment, the make, model and serial number of all equipment held by the member.

It is an offence to sell transmitting equipment within Oman without the prior knowledge and consent of the society.

PETER 1st ISLAND

A new DXCC listing and it did cause quite a stir on the bands. Many questions were asked by many DX operators. Questions embracing where is it, who has operated there and the most searching of them all, when will it be operated and by whom?

All good questions, most answerable. This island is located some 400 kilometres off the Antarctic mainland and spans an area 22 kilometres by 11 kilometres, co-ordinates being 69° 0 S and 91° 0 W. It has a peak of 1220 metres at its highest point.

It was founded in 1822 by a Russian explorer and not claimed until 1931, when the Norwegians occupied it to assist in the policing of their whaling rights in the surrounding waters. This island has been described by one journalist as ". . . bleak, dangerous and uninviting. . ."

One other amateur, who has sailed near it, has described it similarly but remarks that there might be only a few days of the year when a landing would be possible as the surface is covered with ice rather than snow.

It is apparent that any exedition who were venturesome would have to convince the Norwegian government of their intentions and be able to take out a 3Y call. This exercise could prove to make Heard Island look like a piece of "cake" in comparison.

The Norwegian claim is not recognised by many countries, only those who are signatories to the Antarctic Treaty. Australia is a signatory to this agreement whereas the USA and USSR are not.

Problems aside, who will be the first to activate this desolate area, will it become a non starter because of the difficulties and if eventually some amateurs are willing to risk life and limb will it be universally recognised. I feel that it will seeing that the ARRL have listed it as current country number three hundred and sixteen when it is operated by a valid and legitimate expedition.

Any takers to activate this one? The authorities will not be killed in the rush for licence issues that is for sure.

CLIPPERTON

The propagation is still falling and the enthusiasts are still making plans for an expedition in early 1984. Stay tuned for any updates between now and February 1984.

ANGOLA

The near future may allow OK3TAB/D2A to be heard on the bands. This station was last heard in 1979, so if it comes to pass it could prove to be on the much wanted list of newer licencees.

RODRIGUEZ ISLAND

This island will be activated by 3B9FK until approximately mid December. QSL's to PO Box 1080, Port Louis, Mauritius.

ST PAUL ISLAND

This rarely activated area should be active the first week of this month. Stations participating in the venture of putting VE1SPI to air include VE's 1ASJ, CEG, CER, TT, JH1VRQ, W1GNC and WB4OSN.

They promised to be active on all bands with CW, SSB and RTTY.

BLANK QSL CARDS

This column has not been quite complimentry to "open" QSL cards in the past and again they are appearing, this time to an expedition QSL Manager.

Neil, VK6NE has received cards to fill in for "yourself or your friends" in the hope of receiving a confirmation for the much wanted QSL from Heard Island. Some readers will scoff at the thought of this practice but it is 100 percent truthful. I have seen the evidence at this QTH, before the cards were returned to their South American owner.

One wonders how many other legitimate QSL Managers come across such violations of the ethics of the hobby and the temptations placed upon them. No matter who, all cards should be checked against the log, a practice that is not always adhered to unfortunately, I am afraid.

These cards have been cancelled and suitably endorsed, leaving no doubt to the station licencee, no matter if there is a language barrier, as to the integrity of the VK0HI and CW cards authenticity, and the practice is not appreciated in this country by at least one QSL Manager.

Congratulations Neil on the stand that you and your helpers took with such "freeloaders".

DEMOCRATIC KAMPUCHEA

A note from Mike JH1KRC, the Executive for Overseas Relations with the DX Family Foundation, to one of the main contributors to this column, explains that XU1SS was licenced by Mr Son Sann, the Prime Minister of the Coalition Government of Democratic Kampuchea for operation of amateur radio by his own people.

Mike, along with the other JA operators (nine in all) will act as instructors and hoped to be allowed to operate. This was the case as I had the pleasure of working XU1SS and personally speaking to Mike, who gave the VK's an excellent chance of working them.

Whether the DXCC committees and awards managers will accept this as a legitimate country will have to be seen over the coming months. The first step is to receive the QSL card, if you worked them of course, and the only route is a direct QSL to JA1HQG, with of course adequate return postage and SAE. It is unfortunate and quite apparent that no bureau cards will be solicited for obvious reasons.

This group has established and is constructing "Tokyo Village" which will incorporate a refugee camp. Equipment such as two FT77's, one FL2100, one FT101, electronic keyers and the antennae department includes a triband beam, rotator and a vertical. Power supplies have not been forgotten as two engine generators have been also donated by the amateur fraternity and amateur dealers in JA.

GOLDEN ANNIVERSARY

A number of special calls are active from Columbia at the present. These calls include 5J1LM to 5J0LM and 5K1LM to 5K0LM.

These calls are being used to celebrate the fiftieth anniversary of the Columbian society and will be current until the end of the year.

PROFILE OF ZS2OM

Andrew XS2OM, a "white cane operator" for some twenty years, is known far and wide, but particularly in VK and ZL for his amiable QSO's that he enjoys before departing for his work QTH. Andrew enjoys frequenting the ten, fifteen and twenty metre bands when conditions permit.

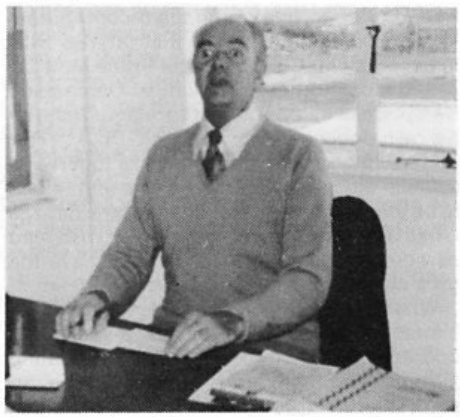
Born around 1925 in South Africa of Scottish parents, Andrew became interested

in amateur radio just after the second World War, when he and his brother ZS2OW (also a white "cane operator") purchased some disposal receiving equipment and listened into contacts from all over the world.

Andrew and Willy's interest was further kindled when a school teacher, who was also an amateur, came to their town. This gentlemans assistance helded them gain the licence.

Apart from radio, and his countless friends overseas, Andrew has few hobbies. He has had in excess of two thousand QSO's with one of his regular friends, Bill ZL4AW since 1969. Another interest is Lions International, where Andrew was a director for eight years and still attends all meetings.

It could be said that Andrew is a man of habit, being very particular about leaving for his work QTH at a particular time each day. He holds a responsible position in a company that deals in agricultural requirements for the farming community around the town of Konga where he resides, a position he has held for in excess of twenty five years, even though he has been with the company for a considerably longer period.



Andrew ZS2OM at work.

When asked in a recent QSO as to how many DX countries he has on his tally, the answer was "I had about 250 about ten years ago, but since then I have lost count."

Anyone wishing to have a QSO with Andrew may join the ANZA Net around 0500 UTC at 21.204 MHz and QSY to an adjoining frequency for a chat before he rushes off to the "saltmine" six days per week.

NEW DX CLUB

A note from Chris VK3FY informs of a group of DX orientated amateurs that have formed themselves into a group with the name of the Down Under DXers Contest Club.

Their first venture will be a trip to Lord Howe Island between the 23rd October and the 3rd November, taking in the CQWW Phone Contest and they will be operating on all current contest bands during their stay.

Members of the group at present comprise Marv WA2BFW, Les VK2WU, Peter VK2DAV, Chris VK2NYA, Sue VK2PSC, Stu VK2ADE, Martin VK4VU and Chris VK3FY.

Good luck to the group in their efforts and it is refreshing to see the novice and full calls getting together in a joint venture.

UNITED ARAB EMIRATES

Fred VK1MM, received a note from Jan A6XJA with some interesting information concerning operations from that country.

Jan notes that there are three stations active from the UAE and they are all acceptable for DXCC credits. The three stations are A6XJA, A6XJC and A6XTH.

The note also gives the only QSL info, which is "Callsign", PO Box 5708, Dubai, United Arab Emirates. Please enclose a self addressed envelope with a US "green stamp" as IRC's are sometimes a non event, four IRC's are required for an airmail stamp at some Post Offices.

These stations are QRV on 21.180 MHz daily at 1600 UTC and on other bands. Modes for these gentlemen are SSB with A6XTH running RTTY and soon SSTV. Jan is also building RTTY equipment.

SILENT KEY

It is sad to record that Nara 9M2LN, became a "silent key" on the 21st July this year due to a heart attack. Nara will be remembered by many VK's for the assistance he gave them in CW tutorials and he has helped many to upgrade.

His work is being carried on by his friend Hock 9M2FR. (Refer article in AR, page 17, November 82.)

TASMANIAN DEVIL AWARD

To maintain interest in this well presented award, the VK7s hold a net on 3.590 MHz at 1000 UTC each Tuesday.

It would be appreciated if some VK7s could join the Pacific DX Net on Tuesdays and Fridays at 0600 UTC on 14.265 MHz, as they are in demand by many overseas operators for this award.

THE DXING TUCKERS

The Tuckers are a family of six licensed amateurs spread over 350 km of Northern California. The family consists of mother, father, two sons and their XYL's and it is hoped in the not too distant future that the grandchildren will stretch the family into the third generation of Tucker amateurs.

Vic, K6SEA and Fran, K6SBL live in a small community, Franklin, situated about 25 km south of Sacramento. Their main interest is working their local 2 m repeater and among their equipment is a Heathkit 2 m transceiver which Fran built. They have both been licensed since 1958 and some of their achievements include providing radio communications for the 1960 World Olympics held in Squaw Valley, providing emergency communications during an Alaskan earthquake and tidal wave and communications during floods in 1964. They have been heavily involved in search and rescue work and handling traffic to overseas servicemen.

Son Ken, WB6AGM attained his licence in 1965 whilst in high school after he became involved in an electronics programme. His XYL, Centella, WB6WEM was licensed in 1977. They live in the small community of Greenville and run a grocery store. Their main activity is also 2 m and are not as active as they would like to be on the DX bands.

Other son Dave, KA6BIM and his XYL Dottie, KA6BIL have been licensed since 1978. They live in Manteca about 100 km east of San Francisco and 100 km south of Sacramento, where Dave is a fireman and Dottie is fully employed in raising their small son Daniel. Dave is the real DX Hound of the family and has worked over 140 countries. He is very active on 15 and 20 m with a little operating on 10 m. Dave and Dottie are very eager for young Daniel to take up the amateur bug as soon as he is old enough and make a third generation of Tuckers on air.

★ K6SEA VIC ★ K6SBL FRAN ★

★ WB6AGM KEN ★ WB6WEM TELLA ★

★ KA6BIM DAVE ★ KA6BIL DOT ★

The Tucker Family
MUCH THANKS

Dave, KA6BIM, Dottie, KA6BIL, Ken, WB6AGM, Centella, WB6WEM, Fran, K6SBL and Vic, K6SEA.

SAN MARINO

Since the change of prefix, a number of the operators have been quite busy on twenty metres.

Relaxing after working the multitudes. (L to R), Giovanni T77D, Franz DJ9ZB, Pergio T77V and Antonio T77C.

Picture courtesy QRZ DX and DJ9ZB.

QSL MANAGERS YOU MAY NEED

1A0KM — *I0MGM*, 1D6AK — *G3WPF*, 3B8DB — *K5BDX*, 3D6AK — *G3WPF*, 4K1B — *UK6LAZ*, 4K1D — *UF6FFF*, 4K1GDW — *UQ2GDW*, 4N5KU — *YU5CXY*, 4N6ARG — *YU6SCG*, 4U1UN — *W2MZV*, 4X4WCY — *4X4AT*, 4X6DF — *KC2MS*, 4X6WCY — *4X6DW*, 5N3RTF — *DK1IF*, 5R8AL — *WA4VDE*, 5Z4CQ — *KA7KSY*, 6U1WCY — *DF7ZH*, 6W8JI — *WA4VDE*, 7P8CG — *KC0FH*, 9H1EL — *LA2TO*, 9K2BE — *G4GIR*, 9K2EZ — *PA0NCV*, 9M2MO — *K9DX*, 9V0TL — *9V1TL*, A4XYA — *G4ADJ*, A71BJ — *G4HNP*, AH9AA — *KW6HF*, BY7PO — *BY1PK*, C30LAC — *EA5AQX*, C30LAE — *EA3CRX*, C31FO — *F3BW*, EH3ITU — *EA3AOC*, EK1O — *UK1OAZ*, EM6F — *UK6FFF*, EN6FCR — *UF6CR*, FB8WI — *F6GXB*, F0HSK/FC — *DL5FN*, FB8WI — *F6GXB*, FE32CCC — *TI2CCC*, FG0HYJ/FS7 — *VE2EWS*, FP0HOQ — *NS4M*, FY0GS — *DK4VW*, HV2VO — *I0GPY*, J88AN — *W3BL*, J88AQ — *W2MIG*, KC6YA — *W9GW*, KD4LI/TI2 — *W2GBX*, KP4CC — *KP4EHB*, KX6PO — *W4FRU*, N2EDQ/KH7 — *KH6JEB*, OH0AM — *OH2BH*, OY1R — *W2KF*, OZ9LM/OY — *OZ9LM*, PY0FE — *PY1BVY*, T30AT — *G3XZF*, T30DB — *G8LGB*, TE32CCC — *TI2CCC*, TG9NX — *N4FKZ*, TL8CK — *F6EWM*, TL8ER — *F6GQK*, TO00FB — *WB6GFJ*, TO7GAS — *FG7AS*, TR8DR — *W2PD*, TR8NYA — *JA1LFP*, TR8SDP — *F8BC*, TU2JL — *F6CXV*, UA0ZDA — *UA3AEL*, VK9ZS — *VK6YL*, VP2MM — *AB1U*, VS6IM — *K1MM*, W1BWS/CS2 — *W1BWS*, Y83TSF — *Y41YM*, YB5ASO — *W4BBP*, ZD9CA — *KA1DE*, ZD9CJ — *K0VCR*, ZD9CS — *KA1DE*, ZK1CH — *ZL1SD*, ZL4DE — *ZL2HE*.

QSL ROUTES

5H3LM PO Box 511, Mbeya.
5N8HEM PO Box 7355, Kano.
5V7WI PO Box 1499, Lome.
5Z4DD PO Box 30270, Nairobi, Kenya.
7P8CI PO Box 949, Maseru 100, Lesotho.
7P8CT PO Box 959, Maseru 100, Lesotho.
A4XJV PO Box 5530, Ruwi, Oman.
CE8ABF Estancia Lago Gaviota, Punta Arenas, Chile.
CO6KW PO Box 955, Santa Clara, Cuba.
CP8GB PO Box 35, Riberalto, Bolivia.
CP8HD PO Box 101, Beni, Bolivia.
EL2AM PO Box 1011, Monrovia, Liberia.
FG7BM PO Box 1249, Point-a-Pitre.
FM7WD PO Box 879, Fort de France.
H44AP PO Box 581, Honiara.
J20WYC BP 1076, Djibouti.
KX6QO PO Box 444, APO SF 96555, USA.
J87BS 3 Chesterfield Hill, London W1.
JY5DT PO Box 2353, Amman.
PZ1DV PO Box 9006, Paramaibo.
S79ARB PO Box 178, Winslow, NJ 08095.
S79WHW PO Box 491, Seychelles.
TR8CR PO Box 4356, Libreville.
TR8DC PO Box 484, Libreville.
TR8IG PO Box 740, Libreville.
VP8ANT PO Box 146, Cambridge.
VU2USE C/- American Embassy, New Delhi.
WA4VDE Route 5, Box 107, Canton GA 30144.
YC5AK PO Box 132, Padang.
ZK1CG PO Box 618, Raratonga, Cook Islands, South Pacific.

CW SWLING WITH ERIC L30042

28 MHz
HL9TX, JA(3), VK3(5), VK6(1).

21 MHz
AH2G, BY1PK (0800 z), BY8AA (0200 z), DJ5WCY, DU1TV, EA30B, FK8AX, FO8JM, HL0C, I6LVT, N6CUQ/KH2 JP1FEE, KH6BGE, P29NPL, PA0L0U, PY8AFT, SM4ZC, UK8AAI, VE2HQ, VE3BDO, KB6AWO, K0KES, YB1DRE, YU1KL, ZK2BW, ZS5KI.

18 MHz
VK3BW, VK3ABR, VK5GZ.

14 MHz
DF2QS, WA3UHK/DU2, G6ZY/EA6, F2NQ, FK0AQ, FO8JM, FR7BP, G4DAA, HG5A, HL1CX, HL9SN, HP1AW, IS0PEC, KH6AK, KL7RS, OE6WF, OK1AAW, PY2BW, SM7ABO, SP2AYC, UA10DR, UK5UCU/U1N, UA9YAN, UC2CFA, UL7PBD, VU2RQ, XE10E, YB4FN, YO3RF, 4K1QAV, 9M2MW.
10 MHz
DF3TB, F6IGQ, FC8TT, FG7BP, FK8KAA, G3U0F, GM3DPK, HB9NL, JA6HW, KP2J, OZ2RH, PA3BTH, VE3QH, W (all call areas), Y39U0, ZM2AGY, 4X4WF.

7 MHz
CO2TM, DJ4PI, EA1IV, F6KSY, FK8DK, FO8BI, HG5A, HC4WA, HL4XM, IV3DVN, KD7P/KH2, KC4AAA, KG6RT, KP2J, KP4L, IS0LKX, LZ2PP, OH1AA/OH0, OH0AM, PA0L0U, OK3EY, UV3WS, UK2GAB, UC2SKZ, UP2BA0, KP4DEX/V2A, VK3WCY, XE3ARV, YO3CD, YU2RA, YV5DRN, Y51XE, 4K1B, 8P6AU.

3.5 MHz
HH2VP, LA2JE, LZ1KDP, SM6CPY, SM7WI, UA3DJN, UA4CCC, UA4PWW, UK2GAB, UB5GFI, UB5LLE, UI8BI, UK6LAZ, UQ2GCN, YO2BV, YO8BPK, YU2CFM, 3D6AK.

1.8 MHz
VE3INQ, VK2(3), VK3(2), VK4NN, VK5(6), VK7(2), VK9NS, N7EIJ, WA7HSN, ZL1HY.

QSLs RECEIVED BY ERIC L30042

DL1BL*, DJ2FR*, DF3TB*, DL7NS*, DJ9GD*, FA30G*, EA6KZ, F5ZI* FK8ET, HH2VP, KC6DT, KC6YA, OZ4CB/A*, PA0L0U*, T30CH, K1VV/M1*, K2AGJ*, W9UZL*, K0WKT*, YJ8NLT, ZS2WV, 5Y4CS.

** Denotes 10 MHz confirmations.*

HEARD AND WORKED ON THE WEST COAST

1.8 MHz
GI30QR.

14 MHz
OH0/K8MF0.

21 MHz
EL2AE, FB8ZQ, GJ4/PA3BFM, HH2VP, PY0FE, TR8DR, TR8JLD, TZ8DC.

28 MHz
GJ4/PA0ERA, GJ4/PA3BFM, HZ1AB, TR8DR.

3.5 MHz
FB8WI, TZ8DC.

7 MHz
A4XJP, FB8WI, GJ4/PA0ERA, HH2VP, TZ8DC, TZ8DC*, UK2FAA

** Denotes SSB operation.*

HEARD AND WORKED ON THE EAST COAST

14 MHz
CY3WCY, D44BC, OH1RX, OK2BFN*, PCT3/G4JMB, 3X4EX, 6W8EX, 7X2AC, 7X2LS, 8J0XPH, 8Q7AV, 9Y4LL, A22GM, C21FS, C21RK, CE0EVG, CE0FCM, CE0ZAD, CN8EL, CO2HS, CT2QN, EA8AKN, EA8NL, EA9JE, EL2AD, FB8WI, FB8ZQ, FC/F0CH, FC9UC, FG7BT, FH8CB, FO8JP, FR7CV, FS7/FG0HYJ, GJ3MWR, HP1XLS, HS0HS, J88AG, JY9TS, KC4AAA, KH8/WA6DJ0, KX6QR, KX6P0, PZ1AP, T30AT, TF5TP, TL8ER, TR8CR, UK6LAZ, UQ2GDQ, VK0GC, VK0VK, VK2AGT, VP2MK, VP8AEL, XT2AU, XU1KC, XU1SS, ZB2J, ZK1AR, ZK8RS, ZS3GB.

21 MHz
A71BJ, V3TV, VK9ZS, FB8ZP, TR8DX, YV5CMI, YV5WKM.

28 MHz
YN1AGI.

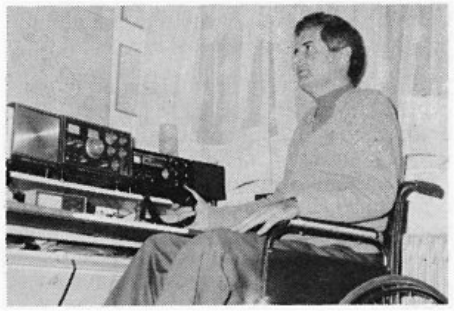
3.5 MHz
NL7K, VK9NS.

7 MHz
4K1B, CE0ZAD, EA8QL, GI3WFA.

** Denotes CW operation.*

INTERESTING QSLs RECEIVED

1S1CK (for 14 & 21 MHz), AP2P, BY1PK, CX4BW, FO8JE, HK6FAO, JY3ZH (from manager DJ9ZB), KA6KL, KG6JDX, LX1KE, OD5AS, OH1B0, TG9VT, TR8BJ, UA1CY, UQ2GCW, VK0CW, VK0DX, VP5WJR, WL7AZC, Y26S0, Y41ZM YI1BGD.



Gero YU4TU, confined to a wheel chair due to being a sufferer of muscular dystrophy, enjoys DXing.

THANKS

This column is never complete without a word of thanks to the many readers that make it possible with their news and reports. Some items are long, some short, but all are equally appreciated and acknowledged in this segment of the column.

Information gained from such magazines as KH6BZF REPORTS, RADCOM, QSL MANAGERS LIST, WORLD RADIO, QRZ DX, VERON, DXEXPRESS, QRZ DX, DX NEWS SHEET were used together with reports from VKs 1MM, WB, 2PS, EBX, 3BY, FR, FY, UX, YJ, YL, 6FS, HD, NE and SWL 30042. Amateurs from overseas countries who have contributed include G3NBC, JH1KRC, I8SAT, W5KNE and ZL1AMN. Thanks to one and all.

AR

EDUCATION NOTES

Brenda Edmonds, VK3KT
FEDERAL EDUCATION OFFICER
56 Baden Powell Drive, Frankston, Vic 3199

Especially for those sitting for the November Novice Examination and those anticipating to sit in the near future Brenda has supplied a trial examination paper. This paper is typical of the type of questions asked so read the questions well and go to it. Don't sneak a look until all the questions are answered, but the answers appear in this issue after the Hamads.

Good Luck — Ed

NAOCP TRIAL EXAM

Instructions to Candidates:

Select the correct or most appropriate alternative and indicate it on the answer sheet as instructed.

Hints to Candidates:

1 Read the questions carefully and thoroughly;
2 Take care when transferring selections to the Answer Sheet;
3 Do not waste time on a question that has completely baffled you. Come back to it when you have finished the rest;
4 When you have your results, go back to the paper and check up on all the questions where you were not sure of the answer. See that you know why the particular answer was correct;
5 Use this test as a guide to the areas where your knowledge is weakest.

Best wishes and 73 to all
B M and J W Edmonds

NOTE:

These papers have been prepared to conform as closely as possible to the DOC plan for question allocation to the various sections of the syllabus.

All questions were written without reference to pre-existing questions — ie they are *not* reprints. Therefore they will *not* appear word for word in the November Novice Exam.

However, DOC has approved it, and has a copy.

1 A primary cell is one that —
- *a cannot be recharged*
- *b has a steady EMF of one volt*
- *c contains a liquid electrolyte*
- *d can be recharged with a steady current of one amp*

2 A sine wave has a frequency of 1 Megahertz. This means that each cycle occupies —
- *a one second*
- *b one millisecond*
- *c one hundred microseconds*
- *d one microsecond*

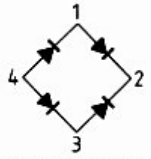
3 Bipolar transistors are frequently associated with 'heat sinks'. This is because —
- *a any heat generated can then be used to heat other components*
- *b they function best if kept warm*
- *c some internal connections are made of silver which has a low melting point*
- *d temperature rises may cause increased current flow which causes further temperature rise*

4 A capacitor is labelled 0.0047 microfarad. This is the same as —
- *a 47 millifarads*
- *b 47 picofarads*
- *c 4.7 millifarads*
- *d 4700 picofarads*

5 Two 600 ohm resistors are connected in parallel. If an EMF of 12 volts is applied across them, the current through one of the resistors would be —
- *a 20 amperes*
- *b 200 milliamperes*
- *c 50 milliamperes*
- *d 20 milliamperes*

6 The reactance of an inductor —
- *a falls as the frequency increases*
- *b depends on the dimension of the coil*
- *c is a measure of its ability to dissipate power*
- *d is measured in henries*

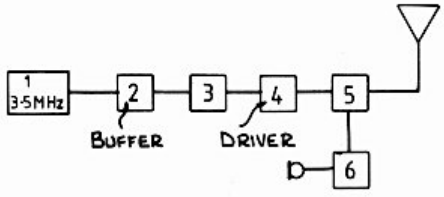
7 The output from this bridge rectifier —



- *a would be taken from terminals 2 and 4*
- *b would be steady direct current*
- *c would be an amplified version of the input*
- *d would be present on positive input half cycles only*

8 An amateur operator in Melbourne can hear a New Zealand station and a Brisbane station both in contact with a Sydney station, but the Melbourne operator cannot hear the Sydney station. This suggests that —
- *a the signals from Sydney are not being refracted by the ionosphere*
- *b Melbourne is in the skip zone for the Sydney station*
- *c the Melbourne operator's antenna is not functioning properly*
- *d the New Zealand and Brisbane operators are using illegal power*

9 In this block diagram of an amplitude modulation transmitter transmitting on 7 MHz —

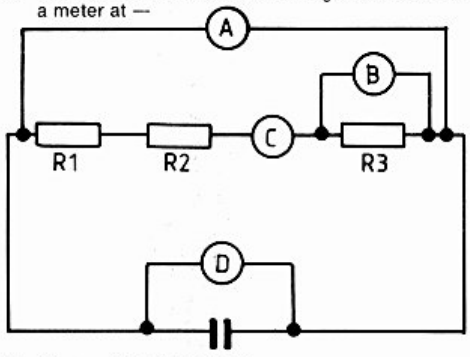


- *a Block 3 would be a tripler and Block 6 a modulator*
- *b Block 3 would be a doubler and Block 5 a power amplifier*
- *c Block 5 would be a doubler and Block 6 a modulator*
- *d Block 6 would be a Radio Frequency Oscillator and Block 5 a linear amplifier*

10 A mains powered soldering iron transformer has a 3 volt output. If the input current is 300 milliamps, the maximum current that can be drawn from the secondary is slightly less than —
- *a 240 amps*
- *b 24 amps*
- *c 2.4 amps*
- *d 240 milliamps*

11 A linear amplifier stage
- *a is used only where high output power is desired —*
- *b increases both amplitude and frequency of the input*
- *c is always operated in Class C*
- *d increases the amplitude of the input without altering the frequency*

12 To find the voltage drop across R_3, you could use a meter at —

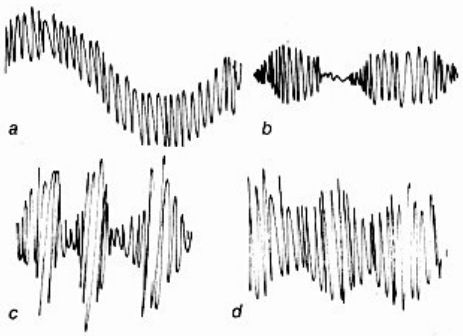


13 The crystal microphone
- *a is a cheap sturdy instrument suitable for mobile use —*
- *b relies for its operation on the piezo electric effect*
- *c has its diaphragm connected to a coil in a magnetic field*
- *d is the most appropriate microphone to use in noisy conditions because of its good high frequency response*

14 A superheterodyne receiver has a single IF stage tuned to 455 kHz. To receive a signal on 3.575 MHz, the Local Oscillator should be set to —
- *a 458.525 kHz*
- *b 3779.55 kHz*
- *c 2665 kHz*
- *d 4030 kHz*

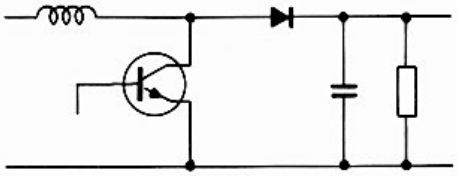
15 A radio frequency carrier wave displayed on a cathode ray oscilloscope screen appears as —

If an audio frequency is applied to the carrier to the point where there is more than 100% modulation, the pattern will appear as —



16 A resistor having the value of 4700 ohms ± 10% would be colour coded —
- a *yellow blue orange silver*
- b *yellow violet orange gold*
- c *yellow violet red silver*
- d *orange blue brown gold*

17 This section of a circuit contains, among other components —



- a *a PNP transistor, a cell, and a diode*
- b *an NPN transistor, an inductor and a diode*
- c *a field effect transistor, a resistor and a capacitor*
- d *a PNP transistor, a zener diode and a choke*

18 The detector most commonly used for SSB reception is —
- a *a diode*
- b *a product detector*
- c *a regenerative detector*
- d *a balanced modulator*

19 Television reception is interfered with by a novice transmitter operating on low power and on various bands. The TVI is probably due to —
- a *harmonic radiation*
- b *overmodulation*
- c *key clicks*
- d *TV front end overload*

20 In a series resonant circuit at resonance —
- a *impedance is maximum*
- b $X_L = X_C$
- c *resistance to direct current flow is minimum*
- d $X_L = \frac{1}{X_C}$

21 The function of a fuse in a circuit is to —
- a *supply a minimum current drain when no load is applied*
- b *provide a safe earth path in the event of an overload*
- c *regulate the current flow to a steady level*
- d *break the circuit if excess current is drawn*

22 The power supply for a novice transmitter capable of 30 watts PEP output should —
- a *be well regulated and capable of 30 watts output from the filtering system*
- b *have poor regulation to allow for the fluctuating power requirements of SSB*
- c *be capable of supplying the peak power requirements of the transmitter although this rates the power supply at more than 30 watts*
- d *be solid state and not vacuum tube rectified*

23 Care must be taken in keying many modern transmitters because —
- a *the microphone is left in circuit*
- b *a dangerous bias voltage appears across the key*
- c *dirty contacts can cause chirping*
- d *dirty contacts can cause key clicks*

24 TV or radio receiver overload caused by novice operation may be reduced by —
- a *increasing transmitter power*
- b *the appropriate low pass filter at the transmitter*
- c *reduced transmitter power*
- d *increasing the height of the receiver antenna*

25 80 metre signals may be useful up to several hundred kilometres during daylight hours if —
- a *they are refracted from the G layer*
- b *the ground is flat*
- c *they are not absorbed in the D layer*
- d *thunderstorms are providing highly ionized paths*

26 When testing a transmitter, use is made of an artificial antenna or 'dummy load'. This is done to —
- a *ensure maximum radiated power for test purposes*
- b *allow accurate measurement of the SWR of the antenna*
- c *reduce output of harmonics with the signal*
- d *dissipate the transmitter output instead of radiating it*

27 The output from one stage of a sideband transmitter is double sideband suppressed carrier. This stage is —
- a *the carrier oscillator*
- b *the balanced modulator*
- c *the sideband filter*
- d *the linear amplifier*

28 An amateur SSB signal is reported by one distant station as of excellent quality but neighbouring amateurs complain of excessive bandwidth and 'splatter'. The amateur is probably —
- a *radiating unwanted subharmonics*
- b *radiating the third harmonic only*
- c *using a speech processor*
- d *overmodulating*

29 A disadvantage of vertical antennas is that —
- a *they usually produce a higher background noise in the receiver*
- b *they are more readily detuned by rain or dew*
- c *they radiate at a higher angle, especially if they are resonant*
- d *they are not able to be protected from lightning*

30 A transmitter stage is self-oscillating when power is applied. It needs to —
- a *have some parasitic suppressed*
- b *have an antenna tuning unit to prevent harmonic radiation*
- c *have the voltage to the final amplifier reduced*
- d *be neutralised*

31 Selectivity of a receiver is —
- a *the ability to receive weak signals*
- b *the ability to remain on the frequency selected*
- c *determined by the speaker transformer characteristics*
- d *the ability to reject signals on adjacent frequencies*

32 The best way to obtain a clean CW signal is to —
- a *use a high pass filter and seek reports*
- b *reduce power to prevent over modulation*
- c *use an oscilloscope to improve the wave shape*
- d *use an unregulated power supply to the oscillator*

33 For efficient energy transfer the transmission line must be matched —
- a *to the transmitter output impedance or to the antenna impedance*
- b *to the antenna tuning unit which will tune the antenna*
- c *by cutting it to $\frac{\lambda}{4}$ or multiples of $\frac{\lambda}{4}$ in length*
- d *to both transmitter output and antenna input impedances*

34 Single band antennae may be preferable to a multi-band antenna when —
- a *the transmitter is prone to parasitic oscillations*
- b *the amateur operator does not use an antenna tuning unit*
- c *the amateur station is in a remote country area away from TV reception*
- d *portable operation in emergencies is required*

35 A disadvantage of double conversion superheterodyne receivers may be —
- a *poor image response*
- b *spurious signals due to unwanted mixing products*
- c *poor sensitivity*
- d *poor selectivity*

36 A receiver has two IF stages, a BFO and a simple diode detector. It may be —
- a *an AM receiver only*
- b *an SSB receiver*
- c *an AM and CW receiver with some SSB reception capability*
- d *a CW receiver only*

37 The basic difference between coaxial line and twin feeder line is that —
- a *coaxial line has a lower reactance than twin feeder*
- b *twin feeders must be air-spaced*
- c *coaxial line is unbalanced, twin feed line is balanced*
- d *coaxial line is unsuitable for use on 3.5 MHz*

38 An RFI complaint is that a 3.5 MHz signal is being heard on a nearby 2.6 MHz emergency service base station. The most likely cause is —
- a *overmodulation*
- b *cross modulation*
- c *a 455 kHz IF in the emergency service base station*
- d *a parasitic transmission at 2.6 MHz*

39 The edge of an amateur band may be easily checked by using —
- a *a grid dip meter*
- b *a broadcast receiver*
- c *a wavemeter*
- d *a marker crystal*

40 The capacitance of a variable capacitor diode can by varied by —
- a *varying the spacing of the plates*
- b *varying the voltage applied*
- c *increasing the DC flowing*
- d *putting a capacitor in series*

41 A diode is rated at 10 amps maximum forward current and 50 volts peak inverse voltage. It would best be used as —
- a *an RF amplifier in a receiver*
- b *an AM detector*
- c *a linear amplifier in a low power transmitter*
- d *a rectifier in a 12 volt power supply*

42 For good amateur communication quality on SSB the bandwidth of the signal should not be —
- a *more than 3 kHz*
- b *less than 3 kHz*
- c *more than 6 kHz*
- d *more than 4.5 kHz*

43 A Yagi antenna for use on 28 MHz will have —
- a *a driven element approximately 5 metres long*
- b *a reflector element slightly over 10 metres long*
- c *one or more directors between the reflector and the driven element*
- d *at least one director slighly longer than the reflector*

44 The power ratio of two signals is 3 dB. This means that one must be —
- a *3 times the power of the other*
- b *one third the power of the other*
- c *twice the power of the other*
- d *at least 3 watts output*

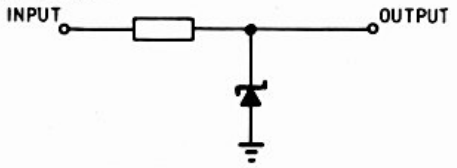
45 The grid in a triode vacuum tube —
- a *controls the flow of electrons to the cathode*
- b *prevents secondary emission*
- c *is usually earthed in RF amplifiers*
- d *is between the cathode and the anode*

46 A novice AM transmitter uses 250 volts on the

anode of the final amplifier. The DC input power to this stage is 10 watts when the anode current is —

a 60 mA
b 40 mA
c 240 mA
d 120 mA

47 This is —



a part of a voltage regulator circuit
b a voltage multiplier circuit
c a spike voltage protection circuit
d a frequency response control

Input Output

48 A solid state device has a drain and a gate. It is probably —

a an NPN transistor with an emitter
b a FET with a collector
c a PNP transistor with a base
d a FET with a source

49 Fading of radio signals from a distant station might be due to —

a sudden variations in sunspot numbers
b signals which have travelled along different paths cancelling each other out
c changes in the path of the ground wave
d changes in the efficiency of the receiving antenna as the received frequency changes

50 The input power to a transformer is 50 watts. The output on load is 12 volts at 2 amps. The efficiency of the power supply under the load is —

a 25% *c 48%*
b 24% *d 96%*

AR

MAGAZINE REVIEW

Roy Hartkopf, VK3AOH
34 Toolangi Road, Alphington, Vic 3078

(G) General. (C) Constructional. (P) Practical without detailed constructional information. (T) Theoretical. (N) Of particular interest to the Novice.

73 MAGAZINE. AUGUST 1983
Simple customised power supply. (P) Spratly Island DXpedition. (G) DXpedition to Sealand. (G) 18 kV Voltage multiplier. (P).

QST JUNE 1983
Antennas for the beginner. (N) 50th Anniversary field day. (G) SSTV. (G) Home made transmitting capacitors. (P).

ORBIT. April 1983
General satellite information.

CQ-TV. NO 122 MAY 1983
General ATV information, Colour TV Phasing. 1.3 GHz helix.

HAM RADIO. MAY 1983
Antenna Issue. Yagis, Verticals, Dipoles, etc.

HAM RADIO. JUNE 1983
PEP Measurement. (P) Harmonic Product Detector. (P) Squelch. (P).

CQ. JUNE 1983
QRP Special. Low Power Operation.

RADIO COMMUNICATION. JULY 1983
13.8 volt Power Units (TP).

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ANNEE MONDIALE DES COMMUNICATIONS
WORLD COMMUNICATIONS YEAR
AÑO MUNDIAL DE LAS COMUNICACIONES
1983

STS — 9 UPDATE

Further to our report last month of "Radio Astronaut in Space", page 11.

The STS-9 launch has been rescheduled from the announced date of 30th September to 28th October.

LISTENING AROUND

Joe Baker, VK2BJX
PO Box 2121, Mildura, Vic 3500

The prewar years in Sydney were times when every suburb seemed to have its own wireless wizard who could be heard on the high frequency end of the broadcast band every Sunday morning between 6 and 7.30 am, grinding out old 78s and sending birthday wishes to anyone who said they would be listening to him. Viewed in retrospect, what an excellent piece of PR work this was for the radio amateur, because in this way anybody with an ordinary domestic receiver could hear him. Living at Campsie as I was then one of our nearest radio amateurs, was a chap at Lakemba, who even used to invite a local pastor to his "studio" to deliver a Sunday morning sermon to the unseen audience.

Another, whose callsign or name I cannot remember was located at "14 Watkin Street, Canterbury" an address that I remember clearly because he gave it out so often.

I would like to have been able to record here for posterity the callsigns of these two amateurs who thus unknowingly helped introduce me to our fine hobby, but the years have erased their callsigns from my memory.

About the time I was ready to enter the work force from college, hostilities were beginning in Europe, and I was a bit uncertain whether to keep on at college or not. I had been earning a bit of pocket money by keeping my ears and eyes open while cycling around Sydney and ringing up the newspapers when I observed something that I thought might be newsworthy. To assist in this worthy cause, although I knew that the newspapers monitored the police radio, I knew the times that they were not monitoring and filled them in on whatever stories they missed out on later. I didn't know anything about Wireless Telegraphy Regulations then of course.

Anyway, a lot of the news tips that I phoned them about concerned actual observations that I had made. For example, on Black Friday 13th January, 1939, I spotted smoke in the general direction of Parramatta and on cycling there saw scores of people bundling their worldly belongings into all sorts of vehicles as the terrible bushfires converged in around that area. Another news tip off came my way as I watched two teams of "girls" playing hockey in a sports oval. Closer observation revealed that some of the "girls" were he-men, who had been rigged out in female attire to make up the numbers.

A phone call to the Sydney Daily Telegraph brought reporter Des Foster and a photographer to take a look, and the result was a humourous story in the next day's paper about the "girls with hairy legs". After this Des Foster became my regular contact at the Telegraph, which later entered into a "contract" with me to pay me 16/- PER MONTH for newstips. Later, I plucked up courage to ask Consolidated Press if I could get a "regular" job and landed the job of copyboy, with a recommendation I am sure from my friend Des Foster.

Now the job of copyboy, I will have you all know, is mainly that of being a general dogsbody or rouseabout who is supposed to do anything he is told or get kicked out of the job — and no back lip, if you please.

As the Telegraph was a morning paper, the copyboy's job took him from just before tea time until long after the paper was "put to bed" — as the "journos say" — approximately 4 am. The copyboys were in the tender care of Mr Davis and Mr Colless, whose duty it was to see to it that when some sub-editor pressed the buzzer and bellowed out "B-O-Y" with a voice like a bull, some hapless lad would have come at the double, to the sub's office. He'd then be asked perhaps to take some copy down to the Chief Censor's Office in Pitt St (remember, it was wartime and newspapers couldn't print just anything they liked). And if the Chief Censor's decision was that the copy was "NOT TO BE PUBLISHED" an official stamp bearing those words was spread across the copy.

Other duties of the copyboys included collecting and signing for incoming Press cables from PMG Telegramboys and Beam Wireless messengers.

Copyboys had also to attend to the teleprinter, when the printer had to have its paper roll changed. There was no end of the sorts of jobs which copyboys might be obliged to do, and if one survived being a copyboy for long enough, with luck he might eventually be selected to become a cadet journalist, and looking back on those now far off days, came many a well known journalist of today.

Now you might ask what has all of this got to do with radio? Hold your horses and I'll tell you for it is what I have been leading up to. It so happens that the Daily Telegraph had two radio rooms — there was the main one — a receiving station in the front room of a private house at 3 Alan Street, Cammeray a Sydney suburb, and this was connected by PMG cables to the other one in the newspaper office. It being wartime, overseas news was of major importance, and news gathered by radio was used to supplement information arriving by cable. In many cases when cables were held up because of wartime activity, there was always the BBC, San Francisco Radio and others. My job as copyboy took me many times into the room where reporters wearing headphones were transcribing incoming transmissions into shorthand so I knew that room very well. Cammeray covered about 45 or 50 newsbroadcasts per night, some in languages other then English, and for these there was interpreter, Dr Emery Barcs. At times when Churchill was due to deliver a major speech (which usually came through about midnight), the presses would be held and copyboys would be racing from the city radio room to the subs desk with page after page of copy as fast as their legs would take them. Remember, that there *were no tape recorders at this time.*

In due course, I was assigned to work at the Cammeray receiving station, which had only one other employee, Roy Philips. We had five receivers there and a multiplicity of antennae in the backyard. The only receiver I can remember at this distance of time is a Skyraider. The outputs of all receivers could be fed via a switching panel to any one of the three special PMG lines which took the traffic to the Castlereagh Street office. Sometimes all three lines would be in use at once, with broadcasts from different parts of the world. I learned how to operate the switching panel, and although I don't speak German, I learned how to identify Berlin Radio, when we were due to take that one at 11 pm, by its identifying gong and the announcement "Deutchercuslander Berlin" (excuse my spelling, if it's wrong) — "This is Berlin Calling" I think it means.

On finishing the night shift at Cammeray, which was usually around 4 am, I would switch everything off, let myself out the front door and catch an early morning tram over the Bridge, to Wynyard, and from there walk all the way up George Street to the Ultimo tram depot from where I would get the newspaper tram to Ryde where we lived. During wartime the trams, like the rest of the city, were in semi-darkness, or the "brownout" as it was called and there was a general air of gloom and foreboding over all. Also all sorts of undesirable characters were wandering the city at that time.

On this particular morning I was somewhere near the Haymarket when I heard footsteps approaching from across the road. "Maybe it's undesirables wanting a smoke" I thought. It was not long before I found out. *"Hey you"*, yelled one of the pair, "What's your name?". I looked back at the two figures approaching me from out of the gloom. "Who wants to know?" I replied (shaking in my boots). They said they were detectives who had had me under surveillance for some time, and "what's a young fellow like you doing out at this time of morning" and always walking by myself up George Street. I tried to explaim to them that I was an employee of Consolidated Press and invited them to contact my boss if they wanted to know if I was telling the truth. But they declined and told me to get lost, or something like that.

Another morning, I was challenged by military police who saw me wearing an overcoat and thought I was an AWOL soldier, but after shining a searchlight in my face, decided that I wasn't the catch they were after. Yet another time I was detained by four tall specimens driving an old sedan car, just

after I left the Cammeray address. The four looked like real cloak and dagger types, and they called me over to their car. One who seemed like their leader said "What's that place you've just come away from? — The place with all those aerials in the backyard." I tried to explain that this was the Daily Telegraph's receiving station, but it was clear that he did not believe me. Neither did he believe me when I told him my name, although I was unable to produce the identity card which people were supposed to carry at that time. "I think we had better have a look over this joint" he said as they marched me back up the steps and in the front door of the station.

Back inside the door of the room where the receivers were, their leader — who had very successfully scared the living daylights out of youthful me — sat me on a chair and started asking questions while the other three rummaged all over the room, at the back of the sets and under the benches. I produced the receiving station log as evidence that what I was saying was true, but even that didn't convince them for they were looking for a non existent transmitter as I later found out. When they couldn't find the transmitter they took off.

Bear in mind that the time I write of was wartime, when anyone who even dared to put up a clothesline in his yard might find a suspicious neighbour on the phone to the authorities, and no doubt it was the unusual antenna array in the backyard that had set this witch hunt off.

Later, I reported the incident to D L Thompson, then Chief of Staff of the Daily Telegraph, who instructed me to prepare a written report on the happenings and hand it to him personally. "Why did you let them inside the premises?" he asked, and I replied that it was because they said they were detectives and they had really frightened me. "Did you ask them to show any identification?" was his next query, "and why not", "because they LOOKED LIKE detectives" I said in all innocence. "But I'll bet they asked you for your identity card" he said, and they, being professionals of course had done just that.

More later, but in the meanwhile, thanks to the many who have expressed condolences to me on the death of my brother Frank on 13th of June (age 61) and a special thanks to members of the Cocktail Net for their floral tribute. It was much appreciated fellers. 73s for now but more of my wartime reminiscences later.

Joe, VK2BJX **AR**

INTRUDER WATCH

Bill Martin, VK2EBM
FEDERAL INTRUDER WATCH
CO-ORDINATOR
33 Somerville Road, Hornsbury Heights,
NSW, 2077.

With the forthcoming WARC '84 (Broadcasting) nearly upon us, it seems timely to mention a few aspects of intruders in the 40 metre band, and what the future holds for the amateur operator who uses this band. Recent correspondence from the DOC gives us the following information:

"Broadcast transmissions emanating from the People's Republic of China, within bands allocated to the Amateur Service, have been evident for a number of years. The Department (DOC) is well aware of the situation and recognises that the presence of these stations, in some respects, restricts the ability of amateurs as a whole to pursue their hobby. It is pointed out that the People's Republic of China is a relatively new member of the International Telecommunications Union (ITU). Consequently, the international regulations relating to the registration of frequency assignments, which have been in force for many years and tend to favour the status quo, are seen to place China at some disadvantage. These regulations combined with the present congestion within the HF broadcasting bands have in fact prevented China from obtaining the registrations necessary to transfer many of its existing services to the appropriate bands. At the signing of the Final Acts to WARC '79, the Chinese delegation had a statement incorporated into the Final Protocol relating to the use of frequencies for broadcasting." This statement, along with eighty two others, was 'taken note of' by Australian and all other Administrations. The statement, No 20, is as follows:

For the People's Republic of China:

At the time of signing the final acts of the World Admistrative Radio Conference, Geneva, 1979, the delegation of the People's Republic of China, on behalf of the Chinese Government, states the following: 'The Chinese delegation takes note of the decision taken by the present Conference on the convening of a World Administrative Radio Conference for the planning of the HF bands allocated to the broadcasting service and believes that it is an effective measure to solve the problem of congestion in the HF broadcasting bands and out-of-band transmissions. However, owing to historical reasons, the Chinese Administration reserves the right to continue to use those frequencies which it uses for broadcasting at present in the band 5.060-27.500 MHz until the establishment and implementation of the proposed HF broadcasting plan.'

Even allowing for this, the DOC has continued to approach the Chinese Administration expressing its concern at the operation of broadcasting stations within the internationally recognised amateur bands.

In January, 1984, there will be a WARC held at Geneva for the broadcasting services. The NZART is to ask the New Zealand Administration to instruct their delegation to the conference to ensure that Resolution 641 of WARC '79 is drawn to the attention of the conference, and given firm support for its implementation. Resolution 641 of WARC '79 states: "the band 7.000-7.100 MHz is prohibited for use by broadcast stations, and those already in it were to get out of it."

Intruder Watch Observers world-wide have been asked to pay special attention to broadcast intruders in this segment of the 40 metre band, and, hopefully, a comprehensive record will be able to be put together to support the claims for the implementation of Resolution 641 at WARC '84. If this occurs, amateurs world-wide will see the disappearance of many broadcast stations from the amateur segment of the 40 metre band, with more satisfying conditions being made available to amateur operators. If WARC '84 is not successful in this, who knows? Let us wish the conference every success in their endeavours, and keep our fingers crossed. Perhaps the problems of the 40 metre band may soon be a thing of the past. Finally, don't forget all are welcome on the Intruder Watch net on 3.540 MHz on Thursday evenings, at 1030 UTC. **AR**

QSP

COMPUTER FOR THE HANDICAPPED

A revolutionary, low-cost computer has been developed that will allow the physically handicapped to work from their own homes and make contact with other people.

"This system will allow the handicapped to keep their income and self-respect," says a spokesman for Maincomp, the London-based firm that manufactures the computers. Maincomp believes that, until now, computers designed for the blind, deaf, dumb or severely disabled have been too basic and too expensive for most people to afford.

The blind system will be based on a unique voice synthesis machine, that types documents and checks copy. A totally new concept will permit the deaf and dumb to make telephone calls.

The operator types the message into the computer before dialling the telephone number to which the message is being sent. When the telephone is answered, the encoded message is sent down the line by a synthesized voice. If the recipient has a similar system he can then send back a reply which will appear on the original caller's computer screen.

Maincomp are particularly optimistic about the computer's usefullness to those disabled by multiple sclerosis, as the machine can be adapted as the disease progresses. The company will launch the computers on the British market shortly and hope to find foreign outlets as well.

(Maincomp Ltd, 1-2 Cambridge Gate, Regents Park, London NW1). **AR**

BOOK REVIEW

1983/84 CALL BOOK

Jim Linton, VK3PC
4 Ansett Court, Forest Hill, Vic 3131

The 1983/84 callbook is exactly the same size and has an identical number of pages (176) as last year's edition — but has new reference material inside, and of course an updated callsign listing.

The first thing that strikes you about the callbook is its full-colour cover.

Credit for the cover design featuring the Gray-Line Radio Globe surrounded by twelve covers of AR magazine goes to Ken McLachlan VK3AH — it's a very eye-catching layout.

The main purpose of the callbook is to list the callsigns of radio amateurs in Australia and Papua New Guinea, and Australian Short Wave Listeners WIA member numbers.

In all there's about 15,000 entries drawn from the WIA computer records and supplied by the Department of Communications.

The callsign entries are in a different typesetting format than the previous callbook in order to accommodate more callsigns without increasing the number of pages — but the typeface is clear and easy to read.

The WIA Publications Committee has done a fine job in updating the listings, remembering that new callsigns are being issued each day, and people are upgrading from Novice, Limited or Combined, to Full Call.

In response to the great number of changed listings the callbook has sufficient room at the end of each callsign prefix area for operators to jot down for their personal record new callsigns.

But this publications is more than just a list of calls, it contains valuable and interesting reference material of use to the active radio amateur and SWL.

New segments include WIA band plans for MF, HF, VHF and UHF, and there's a section on Amateur Fast Scan TV.

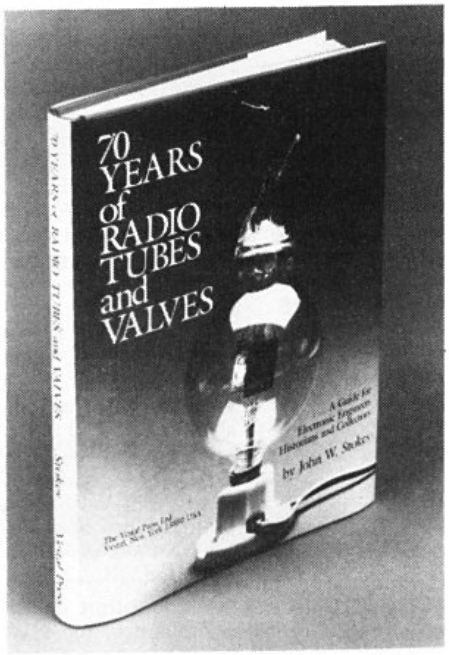
The Australian DXCC Countries' List is fully updated, and details of Australian Radio Amateur Awards have been revised.

Callbook editor Gil Sones VK3AUI in his editorial says ". . . the material has been selected by the Publications Committee to allow the reader to gain more knowledge and enjoyment from their chosen hobby."

There's little one can add to that statement, except perhaps state the obvious that the callbook is a vital piece of reference material for every shack.

The recommended price is $5.75 — good value.

AR



SEVENTY YEARS OF RADIO TUBES AND VALVES

Ron Fisher, VK3OM
TECHNICAL EDITOR

Being something of a collector of old radio sets and bits and pieces, I guess it was only natural that I got to review this fascinating book.

70 Years of Radio Tubes and Valves, the last word being used to describe the products of Europe, Australia and New Zealand, was written by a New Zealander, John W Stokes, but produced and printed in the United States by the Vestal Press Ltd, of Vestal New York. The production is excellent with hundreds of black and white photos, the only colour used is on the cover sleeve with the same photo reproduced opposite the title page.

The 247 pages and 27 chapters trace the entire history of vacuum tubes from the original Edison lamp right through to the miniature tube of the fifties and sixties. One can only wonder where the solid state device will be after it has had as many years development as the tube.

Chapters include, The Grid, Some Early American Independents, Another Grid, Developments in Tetrodes, Metal Envelopes, Octal Based and All Glass Tubes, Transmitting Tubes, Canadian and Australian Tube Manufacture, The British Electrical Companies and many others.

The contents are not in chronological order apart from the first couple of chapters. Indeed each chapter is a complete story in itself. Unfortunately transmitting tubes only rate six pages and the most famous of them all, the 807 does not get a mention.

The book was written more as an historical rather than a technical treatise with the only technical data being the reproduction of a few old specification sheets and some advertising pages.

However, there is plenty of information for the collector trying to date his latest find. I was delighted to find a description of the AWA Expanse 'B' valve which was used by many of the original amateur operators including Max Howden 3BQ in the receiver used to pick up signals from the USA in the early twenties.

All in all, a most readable book that you will find hard to put down. With the valve fast disappearing from general use in a few years time the only trace left will be in museums and books like this.

AR

AWARDS

Mike Bazely, VK6HD
FEDERAL AWARDS MANAGER
8 James Road, Kalamunda, WA 6076

Have you ever thought of applying for single, 5 band or 6 band, worked all continents? These certificates are issued by the IARU and can be endorsed for any recognised mode. To apply, send the QSLs to me, with return postage, and I will do the rest. Do not forget to send in your address label from an issue of AR as these awards are only available to members of the Institute. These awards are not available for operations on any of the new WARC bands.

Further to a note on the "Ballarat Gold Rush" Award in August AR, the cost of this award is $3.00 and not $2.00 as printed. All other information is correct, that is, one needs to contact ten Ballarat stations and applications should be sent to VK3XEX. Incidentally this award is unusual in that it comes with suggestions on how to mount the award as the award has been printed on self adhesive material. Yes, it is printed on a gold background!

PARAGUAY AWARDS

The following are some of the awards issued by the "Radio Club of Paraguay". Each award costs 5 IRCs and contacts need to have been made after 15 May 1952. A certified list should be sent for each award to Radio Club Paraguayo, Alberto Tauber, ZP5PX, PO Box 512, Asuncion, Paraguay.

(Note. The list has to be certified by myself and this can be done by sending the list with the QSLs and return postage to me.)

The All Mediterranean Countries Award is given for confirmed contacts with Mediterranean countries (inland) as follows:

— *Class A: 41 countries*
— *Class B: 30 countries*
— *Class C: 20 countries*

A ZP contact is obligatory in any class.

Countries: A2, A5, AC3, C31, CP, HA, HB, HB0, HV, JT, LX, OE, TL, TT, TZ, OK, UC2, UD6, UG6, UH8, UI8, UJ8, UL7, UM8, UO5, XT, XW8, YA, ZE, ZP, 3D6, 4U1, 5U7, 5X5, 7P8, 7Q7, M1, 9J2, 9N1, 9U5, 9X5.

The Tropics of Cancer and Capricorn Award is given for confirmed contacts with countries touched by the Tropics of Cancer and Capricorn as follows:

— *Class A: 28 countries*
— *Class B: 20 countries*
— *Class C: 12 countries*

A ZP contact is obligatory in any class.

Countries valid for this award:

— Tropic of Cancer: S2/3, BV, BY, EA9, (Sahara) KH6, A4, A6, SU, TZ, C6, VU, XE, XZ2, 5A, 5T5, 5U7, 7X, 7Z.
— Tropic of Capricorn: A2, CE, C9, LU, PY, VK, ZP, ZS, ZS3, 5R8.

The All Zone 11 Prefixes is given for confirmed contacts with prefixes in CQ: WAZ Zone 11 as follows:

— *Class A: 30 prefixes*
— *Class B: 19 prefixes*
— *Class C: 12 prefixes*

Prefixes List: ZP1 to ZP9, PY1 to PY0 and the special prefixes issued for WPX contests.

The Diploma Sud-America is given for confirmed contacts with countries located in ITU zones 12, 13, 14, 15, 16 and 73 as follows:
A ZP contact is obligatory in all classes

— *Class A: 33 countries and 6 ITU zones*
— *Class B: 25 countries and 6 ITU zones*
— *Class C: 18 countries and 5 ITU zones*

Countries:
Zone 12 — FY, HC, HC8, HK, HK0 (Malpelo I) OA, PZ, 8R, YV, GP1/8/9.
Zone 13 — PY6/7/8, PY0 (Fernando do Noronha), PY0 (St Peter and St Paul)
Zone 14 — CE1/2/3/4/5, CE0X, CE0Z, CP2/3/4/5/6/7, ZP, CX, LU, A/U/Y.
Zone 15 — PY1/2/3/4/5/9, PY0 (Trindade Is).
Zone 16 — CE6/7/8, VP8 (Falkland), LU-V-W/X.
Zone 73 — KC4USP (Palmer Station), LU-Z CE9AA/AM, VP8 (Graham Land), VP8 (South Georgia), VP8 (South Orkney), VP8 (South Sandwich), VP8 (South Shetland).

CAGOU AWARD

The Amateur Radio Association of New Caledonia offers the "CAGOU" Award. The rules, which are quite simple, are as follows:
1) Six different contacts with FK8 stations are required.
2) All contacts after 1 Jan 1980 count.
3) Any band or mode may be used.
4) Log information only required.

Send your application, with 12 IRCs to ARANC, Awards Manager, PO Box 3956, Noumea, New Caledonia.

SWL AWARDS

VK6NHD has kindly forwarded to me details of awards issued by the ISWL. These details are reproduced below.

Each award is a separate coloured certificate, available to all amateurs and SWLs. GCR list of QSLs together with fee of $3 Australian or 10 IRCs for each award to: ISWL Awards Manager, Mr Clifford A Tooke, 6 Chelmer Avenue, Rayleigh, Essex, England SS6 7TB.

Century Club

For verified contact/reception of 100 different countries as defined in the ISWL Country list, with stickers for each additional twenty five countries to 350.

Continental Award

For verified contact/reception of ten stations in each of the six continents: a total of sixty QSLs are required which need not be from separate countries.

States Award

For verified contact/reception of the forty eight states of continental USA, plus Hawaii (KH6) and Alaska (KL7), a total of fifty QSLs are required.

Commonwealth Award

For verified contact/reception of fifty different countries within the British Commonwealth of Nations. (SW BC Listeners need reception of thirty countries only.)

European Award

For verified contact/reception of fifty different countries within the continent of Europe. (SW BC Listeners need reception of thirty five countries only.)

Pacific Ocean Award

For verified contact/reception of forty five different countries which have at least a part of their coastline on or in the Pacific Ocean, as in VE, W, VK, ZL, KH6, etc. (SW BC Listeners need reception of thirty countries only.)

Zone Award

For verified contact/reception of twenty five ITU Zones, as defined in ISWL Country List and Zone map, (available from ISWL HQ or ISWL Awards Manager price 35p or 3 IRCs). Stickers available for 50 and 75 Zones hrd/wkd, price 20p or 1 IRC.

Five Band DXCC Award

For verified contact/reception of 100 different countries on each of the five separate bands. Total 500 QSLs in all, and need not be the same countries on each band.

Well that's about the lot for this month. Happy hunting, 73 es DX de Mike, VK6HD.

MALTA AWARD

To commemorate the 50th Anniversary from the foundation of the MARL Amateur Radio League, this league has decided to issue a special award to be known as:

THE MARL GOLDEN JUBILEE

Period: From 1st September 1983 until 31st September 1984. This award is available to licenced amateurs and SWL's (on heard basis).

To apply for this award one must work 9H50DC the special station. This can only be worked once, and any other four 9H stations on any band and in any mode.

Each station can be worked more than once on the same band but this must not be on the same day.

No QSL cards are required, only a copy of the log certified by the awards manager of the National Society or by two licenced radio amateurs.

The fee for this award is US$3 or 15 IRCs.

All applications should be addressed to: The President MARL, PO Box 575, Valletta, Malta.

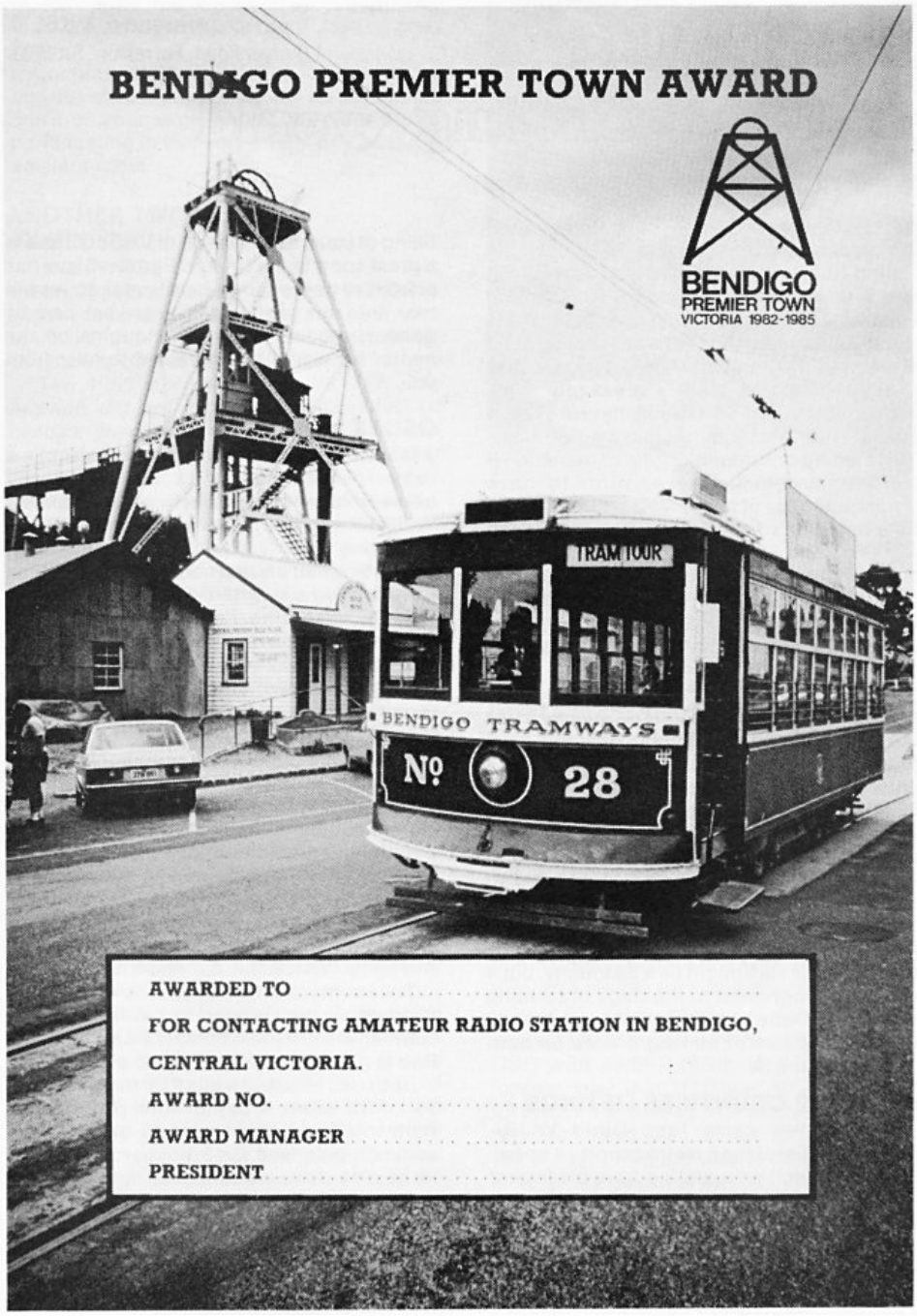
PREMIER TOWN AWARD

The Midland Zone of the WIA Victorian Division has launched the first ever award for the central Victorian city of Bendigo.

The award certificate is a full color photograph of the Central Deborah Mine and popular tourist attraction the "Talking Tram".

Bendigo's Tourist Trust is sponsoring the award which marks Bendigo being given the prestigious state government "Premier Town Award" title for the next three years.

To qualify for the award contacts are

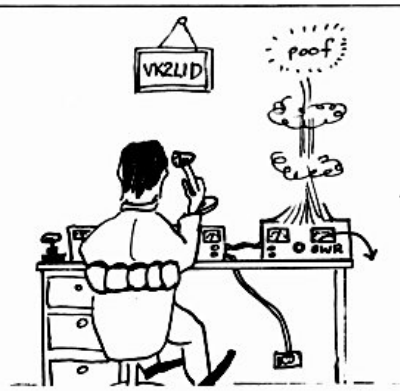


needed with five amateur stations whose addresses are in the Bendigo area postcodes of 3550, 3551, 3555 and 3556.

The Midland Zone station VK3ATO will count as three contacts. To apply for the award send a log extract together with a QSL card and $1.00 to the Award Manager, Joan Sutherland VK3NLO, 25 Casey Street, Bendigo, Vic 3550.

The award will be forwarded by the Bendigo Tourist Trust. The Midland Zone hopes the award will help publicise the tourist aspects of Bendigo to both Australian and overseas radio amateurs.

Award chasers are welcome to join in the Midland Zone's two weekly nets — Tuesdays at 1000 UTC on 14.200 MHz, and Thursdays 1000 UTC on 3.600 MHz. **AR**



QRX OM — problem here

by VK2EBM

THE HEY-DAY OF HOME BREWING

"There has never been anything comparable in any other period of history to the impact of radio on the ordinary-individual in the 1920's. It was the product of some of the most imaginative developments that have ever occurred in physics and it was as near magic as anyone could conceive, in that with a few mainly home made components simply connected together one could conjure speech and music out of the air. The construction of radio receivers was just within the competence of the average man, who could always make modifications that might improve his aerial or his receiver and give him something to boast about to his friends. I acquired much of my manipulative skill through building and handling receivers; when at last I could afford a thermionic valve in 1928, I built a receiver that picked up transmissions from Melbourne, which that station acknowledged by sending me a postcard carrying the signatures of the English Test Team."

From chapter 1, Part 1 of "Most Secret War" by RV Jones, who devised and directed counter-measures against German radio and radar target-finding transmissions during World War II, and in 1946, at the age of 34 was appointed to the Chair of Natural Philosophy at the University of Aberdeen thus becoming a Professor of Physics.

Published in 1978 by Hamish Hamilton Ltd and later in paperback it is probably available from or through your municipal library. The author includes some entertaining accounts of his brushes with high level Air Force personnel who considered that no "outsider" (especially a civilian) could possibly know as much as they did. In many cases, Jones knew a good deal more.

Submitted by Dick Goslin VK3SV

AR

URGENT!

Please let us know of clubs and schools etc. starting theory classes.

Where, when, how much and whom to contact.

Contact Brenda VK3KT.

VHF UHF - an expanding world

Eric Jamieson, VK5LP
1 Quinns Road, Forreston, SA 5233

All times are Universal Co-ordinated Time, indicated as UTC

AMATEUR BAND BEACONS

FREQ	*CALLSIGN*	*LOCATION*
50.005	H44HIR	Honiara
50.008	JA2IGY	Mie
50.020	GB3SIX	Anglesey
50.060	KH6EQI	Pearl Harbour
50.075	VS6SIX	Hong Kong
50.945	ZS1SIX	South Africa
51.020	ZL1UHF	Auckland
52.013	P29SIX	New Guinea
52.100	VK0AP	Macquarie Island
52.200	VK8VF	Darwin
52.250	ZL2VHP	Palmerston North
52.300	VK6RTV	Perth
52.320	VK6RTT	Carnarvon
52.350	VK6RTU	Kalgoorlie
52.370	VK7RST	Hobart
52.420	VK2RSY	Sydney
52.425	VK2RGB	Gunnedah
52.435	VK3RMV	Hamilton
52.440	VK4RTL	Townsville
52.470	VK7RNT	Launceston
52.510	ZL2MHF	Mount Climie
144.400	VK4RTT	Mount Mowbullan
144.420	VK2RSY	Sydney
144.465	VK6RTW	Albany
144.475	VK1RTA	Canberra
144.480	VK8VF	Darwin
144.550	VK5RSE	Mount Gambier
144.600	VK6RTT	Carnarvon
145.000	VK6RTV	Perth
147.400	VK2RCW	Sydney
432.410	VK6RTT	Carnarvon
432.420	VK2RSY	Sydney
432.425	VK3RMB	Mount Bunninyong*
432.440	VK4RBB	Brisbane

** This indicates a correction to the frequency of VK3RMB, with thanks to Murray, VK3AAI, President of the Ballarat Amateur Radio Group for the advice of same.*

SIX METRES

My late news announcement last month of the granting of operating privileges in the segment 50.000 to 50.150 MHz outside Channel O hours was received with a sigh of relief in most quarters, as being a start at least to allow VK stations some compatibility with overseas countries for DX working. I suppose we should not look a gift horse in the mouth, so the expression goes, but it seems a pity such a move could not be considered for the peak of Cycle 21 now long since past!

Anyway, we have something to start with so let's make the most of what is available. If we do the right thing during the interim period and not cause too much trouble to Channel O then there may be some relaxing of the hours of non-operation, which seem to be unduly restrictive in some areas.

It seems sensible to use 50.110 as the calling frequency which should be largely in line with overseas ideas and it would seem equally sensible for the time being at any rate to use the new segment for what we originally wanted it for, DX particularly overseas stations. It would seem a great pity if we suddenly left 52 MHz during the Es season and did our interstate working on 50 MHz. Sufficient to consider this type of operation if we ever are fortunate enough to have unrestricted use of the 50 MHz end, but for the time being let's keep 50 MHz for specialised working, and 52 MHz for general working. One way for this arrangement to be kept so would be for the Ross Hull Memorial Contest to be conducted on 52 MHz and above — perhaps the Federal Contest Manager should seriously consider this matter.

So far, there have been some contacts amongst VK stations on 50 MHz, mainly to try out the band and equipment. Most will have found some shortcomings, particularly in the antenna department, if same has been cut for 52 MHz, but the change is on the favourable side, as going lower in frequency does not seem to worry an antenna as much as going up in frequency. Anyway, an SWR of 1.5 or so won't be much of a problem; with the transmitters most tranceivers already tune 4 MHz so they are not a problem, perhaps the homebrew linears might be a bit touchy, but if you have progressed to the stage of building your own 6 metre linear then I am sure you will be quite capable of making it work on both sections of the band!

SIX METRE COUNTRIES LISTINGS

A letter has come from David VK2BA enclosing a list of the 6 metre countries he has worked, in fact, an updating from his former list. He also asks for a VK list to be published. I did promise this a couple of years ago but for various reasons it wasn't done. However, I will definitely take the matter up with the Editor of "AR" and see when space can be made available and start the ball rolling. With the publication of the first list there should be some incentive for those, not already advising, to do so.

As a reminder, if you are sending a list, and I urge you to do so, I require the following information for each contact: Date, Time in UTC, Callsign, Country, Mode, Report sent and received and advice of whether a QSL card or other confirmation has been received. If you are still awaiting confirmation, add that country but indicate no QSL so far, this will be acknowledged in the listing separately. What about it chaps?

LOCATOR AWARD

Steve VK5AIM has indicated he would like to see a move start in VK to make use of the latitude/longitude locator squares system for hopefully, an increase in VHF activity. The filling of squares as a result of VHF contacts is a great sport in the UK and Europe. Steve has offered to pay for some certificates so we will look into the matter and see what can be done. If readers have any thoughts on the matter we would be interested to hear from you.

OSCAR 10

It seems Oscar 10 has been causing quite a deal of interest around the world. Certainly being from far the least active has been Bob VK5ZRO who has been having a ball!!

Starting with Orbit 113 at 1450 UTC on 7/8/83 Bob had his first contact with DK2ZF in Germany, who is VHF Editor of the German "CQ DL" magazine. From that time onwards Bob has been having daily contacts around the globe and at 21/8/83 had contacted more than 150 different stations in 26 countries. Over the weekend of 21/8 he contacted more than 70 stations in the US, plus VE3, VE5 and VE7. So far Bob has worked about half the States in the US.

Countries worked so far include Germany, Northern Ireland, Ireland, England, Holland, Sweden, Switzerland, Belgium, Austria, France, Italy, Greece, Denmark, Finland, Luxembourg, Hungary, Israel, Hong Kong, Japan, Solomon Islands, Hawaii, New Zealand, USA, Canada, Alaska, Ecuador and Australia. (VK1, 2, 3, 4, 5, 7 and 8, but no VK6).

The contact with DK2ZF on 7/8/83 is claimed by the German to be the first ever Germany to Australia contact via a satellite — Bob is not sure so is making no claims!

Bob uses about 40 watts PEP to transmit on 70 cm to either a bay of four 70 cm yagis horizontally polarised, or a 15 element yagi vertically polarised. On 2 metres for reception he uses 11 elements horizontal or 11 elements vertical as dictated by conditions. The vertical antennas can be tilted to follow Oscar 10 and are about 6 m high. The system provides from 8 to 10 hours of daily access to Oscar 10, and some contacts have been maintained for over an hour. Two RTTY contacts have been made to Japan to JA1ANP and JA1MIN, signal reports 569 for an hour or more.

Bob says the actual polarisation is quite important, and you need to experiment between horizontal and vertical for best results, hence circular could be even better. He said some contacts might have been made earlier than 1450 UTC on 7/8 but for the fact that the low gain aerials on Oscar were in use for the early orbits, and signals improve significantly after the higher gain antennas were brought into use. Many VK stations went to bed too early that night!

Stations in VK5 so far reported either working through Oscar 10 or trying include VK5ZRO, ZK, AGR, ZDR, JM, ZTS, ZRG, QM, DK and ME.

Oscar 10 transmits on 145.975 to 145.825, and you transmit on 435.025 to 435.175,

remembering that as you go up in frequency then the received signal on 2 metres goes down.

Congratulations to you Bob for a fine effort, and as time progresses we will no doubt hear more of your exploits and those of others participating in this very interesting phase of amateur radio.

ANOTHER TWO METRE DX-PEDITION!

Steve, VK4ZSH has been at it again! His latest DX-pedition chasing 2 metre TEP DX to Japan took place in April/May this year, and as usual, his letter makes interesting reading, so I have taken the following from it:

"The 1983 April/May 2 metre TEP DX-pedition did not go as planned, in fact, it became more of an endurance test with unseasonal widespread heavy rain that inundated most of Queensland for many weeks making it a very wet, cold, windy, muddy, boring and eventful trip! I started in Boulia but after twelve days sitting in the front seat of my car swatting flies there was still no sign of the improvement in geomagnetic conditions hoped for, so moved north 3 degrees.

"22nd April: Raining 30 km west of Camooweal in VK8. While telling Hide JA2DDN on 6 metres that 2 metres was closed, it opened and in 30 seconds the 146.760 MHz beacon had reached S5. My JA followers were caught by surprise and during the short opening I found no English speakers! Beacons 1000 to 1035 UTC. The distribution of JA paging transmitter beacons received indicated further south would be better for JA8.

"23rd April: After checking road conditions headed off for Urandangie and only just made it because of more rain. As I arrived, stretching from one side of town to the other were four double decker beef cattle road trains being coupled to a D7 bulldozer for an attempt at crossing the Georgina River. I wisely resisted the temptation to hitch a ride to VK8 by chaining my car to the back of the 120 m long 180 wheeled monster road train! It took eight hours for the D7 to pull and push the road trains to drier roads on the other side of the river, in the process re-arranging the countryside and destroying what road there was.

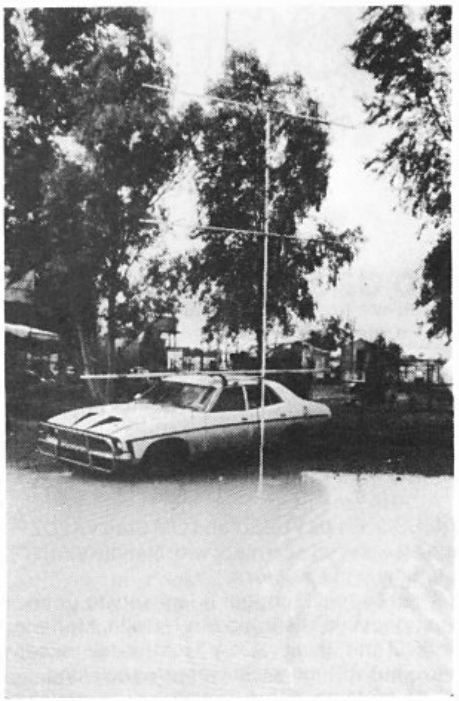
"2 metres opened and at 1035 worked JA1RJU and at 1051 JA1VOK. Beacons 1023 to 1145.

"24th April: Urandangie and more rain. On 2 metres 1020 JA1RJU, 1023 JK1DUP, 1025 JA7OXL. This latter is the third record contact with Toshinobu and breaks our VK record by 106 km. JA7OXL uses a TS770 to a 4CX350F running 240 watts input and eight 10 element yagis at 18 m. 1026 JA1VOK, beacons 1012 to 1155.

"25th April: Half year of rain and at one stage even though the car was on some of the highest ground for miles water reached the wheel rims! Also assisted in the thrilling rescue of the four road train drivers who had been stuck for some time in a metre of water and mud 16 km out of town.

"28th April: Still stuck in Urandangie but rain has stopped. Beacons 1050 to 1120 and weak JA's.

"29th April: Finally got back to the bitumen and Boulia. 1010 to 1125 beacons and swapped signal reports with JA1VOK. At about 23° S this is the greatest distance south a 2 metre TEP signal has been heard in VK.



Water laps the tyres during Queensland floods and the VK4ZSH DX-pedition.

"1st May: Boulia. Beacons 1034 to 1050 plus 1120 to 1145. As a sideline had arranged 2 metre tropo skeds with John VK6GU in Wyndham, WA. Because of the rotten tropo weather the skeds soon became meteor scatter skeds. Following a couple of failures due to our inexperience with the mode we went to 6 metres for some practice!

"3rd May: Now 12 km west of Camooweal and at 1130 completed the first VK4 to VK6 MS QSO with John VK6GU at Wyndham on 6 metres; later that UTC day at 2150 worked VK6GU on 2 metres MS exchanging 5 x 5 reports. John was using an IC251 with 150 Watt PA with pre-amp to 10 element yagi at 10 m. My gear was an IC251 with 70 W PA NE64535 preamp to 2 x 10 element yagis at 5 m. The QSO just happened to coincide with the peak of the Eta Aqarid shower with the longest burst being eight seconds. The distance is certainly no record but this must surely be the first VK4 to VK6 2 metre QSO.

"4th May: Cloncurry; against all indications and predications 2 metres opened, surprising the JA's again, but this time their warning system worked. At 1050 JA1RJU, 1053 JM1JFC, 1057 JM1SOZ, 1058 JL1CWS, 1059 JO1CFO, 1102 JA0IXX, 1103 JA1VC, 1105 JO1GZR, 1106 JA1ACT, 1111 JM1ION. Beacons 1045 to 1255.

"5th May: Cloncurry, beacons 1026 to 1115. Even the trip home to Brisbane was difficult involving a detour via Townsville, with little sleep and bailing a lot of water out of the car!

"As this is my last trip at least for this sunspot cycle a review of the three trips is in order: total distance 36,000 km (that's like Brisbane to Perth via South America) using 5,300 litres of fuel which is not cheap in the outback.

Trip	Days in area	Days 2 m opened	Days JA's QSO'd	#JA QSO's	Total hours beacons heard	Average opening hours
April/May 1982	27	10	8	128	19.6	2
October 1982	17	6	4	22	10.8	1.8
April/May 1983	26	8	3	16	9.0	1.1

"The table is interesting in that it appears to show that despite the downhill slide at the end of this sunspot cycle the only major effect is a drop in signal strength. The sun still seems to be able to produce the TEP ducts at about the same average rate of one opening per three days but lower energy levels mean the ducts leak and the resultant lower signal strengths make openings shorter and thus contacts fewer.

"I would be surprised if contacts did not continue right through the sunspot minima though with much reduced frequency unless there is a marked improvement in the generally poor grade of VK stations currently operating 2 metres TEP.

"I would like to thank Hide JA2DDN and Kazu JA1RJU for their considerable help once again, and Beth and Frank Austin at Urandangie for their kind hospitality."

Thanks for writing Steve, we all hope your dedicated efforts will prove of value in trying to unlock the mysteries of VHF propagation, and we look forward to hearing of your exploits when they start again.

NEWS FROM NEW SOUTH WALES

Gordon VK2ZAB has written again from Berowra Heights in Sydney and says he has recently completed a new 2 metre linear using a pair of 4CX250B's and replacing the 8122's which expired a while ago. The new unit also runs 400 W PEP and is coupled to four, 9 element yagis. On 70 cm Gordon uses four, 11 elements and 10 W.

Gordon reports John VK2YEZ in Griffith can be worked most times. He also works into Melbourne but Griffiths is closer to Melbourne than Sydney. John has a 4CX250B on 2 metres and the last contact was on 4/8 with signals 5x4 both ways. Trying 70 cm John was audible in Sydney, but Gordon's 10 W wasn't enough!

Doug VK3UM at Chirnside Park was 5x1 at 2033 on 30/7 and 5x3 at 2045 on 12/8 and gave VK2ZAB 5x4 on 2 metres. Doug is also getting fired up on 70 cm. He also worked VK1RK, VK1KAA and VK1VP on 12/8.

Doug VK2XDH has moved from Armidale where his 2 metre operations were restricted by a Channel 5A translator, to Uralla where things are better, and runs 25 W on 2 metres and worked VK2ZAB on 3/8, 4/8 and 12/8 and 14/8 signals from 5x1 to 5x3 and in return gives 5x5 to 5x9.

Barry VK2KAY at Gunnedah is changing his antennas but Jock VK2ZQX still puts in an almost nightly appearance on 144.2 MHz, with signals to 5x6. Don VK2ADY at Tamworth worked on 4/8 but is a shift worker and contacts vary accordingly.

In Sydney, VK2ZHT is active on 144 and 432 MHz, and so is Ross VK2ZRU. Jack VK2AAS has just put up a new 2 metre beam. Adrian VK2EDB is also on 2 metres SSB and contacts are being increased in range as time progresses.

All in all, it's good to know something is being done in and around Sydney as well as the country areas. I wonder what is being worked in Melbourne?

VK2AMW EME PROJECT

Lyle VK2ALU reported to the July 1983 meeting of the Illawarra Amateur Radio Society that so far this year more than 500 man hours had been spent on getting the 32 foot dish ready for use, and some 50 to 100 more such hours would be needed to get the project on the air on a "lash-up basis".

Lyle said the power amplifier is to be mounted in the dish with remote tuning facilities, and it is hoped to achieve 120 W output with a beam width of 2 degrees between half power points. Frequency will be 1296 MHz with circular polarisation. Because the path loss to the moon and back is -272 dB, sensitivity of the returned signal will be only 1/2000 millivolt!

Thanks to "The Propogator" for the above piece of information.

WILLIS ISLAND ACTIVE

Graham VK9ZS is anxiously awaiting contacts on six metres. He has the keyer running on 52.075 MHz.

CLOSURE

There hasn't been a lot else to report this time. I note Bob VK5ZRO and Don VK5ZRG at Whyalla are still maintaining their almost nightly skeds on 70 cm despite all the activity on Oscar 10.

VK5RSE the Mount Gambier 2 metre beacon is still a consistent signal into the VK5LP establishment, continuing to be there day or night, rain or shine. Sometimes the masthead pre-amp is needed to lift it up out of the noise, but it's always there, serving its purpose as a constant indicator. Can anyone report how consistent it is in Melbourne please?

The thought for the month this time comes from Steve VK4ZSH, who probably had a lot of time to think about such things whilst sitting for twelve days in his car at the back of nowhere, swatting flies! "Let me not seem to have lived in vain" (Tycho Brame), or to put it more modernly: "It's not what you know, it's not who you know, and it's not what you know about who you know, it's what you do that counts". Signed: The voice in the wilderness . . . Steve VK4ZSH. Thanks for your thought Steve. 73 from The Voice in the Hills.

AR

JAMBOREE ON THE AIR

Participation Report & Log Sheet

Some amateur operator participants in JOTA may be unaware that a Report and Log Sheet should be completed by them as well as the Scout/Guide personnel to enable accurate participation records to be sent to the Scout World Bureau.

A photocopy of these sheets may be obtained from the Federal Office of the WIA by those unable to obtain same from their Scouting Group.

ALARA

Australian Ladies Amateur Radio Association

Margaret Loft, VK3DML
28 Lawrence Street, Castlemaine, Vic 3450

Well we are back in sunny Victoria again after a most enjoyable touring trip through the coastal area of NSW and Qld as far as Bundaberg. Along the way we met up with Grahame VK2ZZV at Newcastle and Roy VK4NE formerly from Castlemaine. Also spent a day with Peg and Bert VK4BKU ex VK3KU from Kilmore.

ALARA members we met were Wendy VK4BSQ, Freda VK2SU and OM Stan VK2DZP and also stayed overnight with Narelle VK1NG and family in Canberra.

Thank you all for your hospitality to us and a very special thank you to Narelle, Marlene VK5QO and Valda VK3DVT for the daily skeds they kept with us while we were travelling.

The AGM on 25th July was very successful with twenty six on air including two ZLs and VK states 1 to 7 represented. Six proxy votes as well were recorded. Very pleasing result for the executive committee to know they have the support of so many.

Slight changes were made to the constitution, otherwise all reports etc were accepted as per the newsletter prior to the meeting.

Executive Committee for 1983-4 is:

President: Helene VK7HD
Vice-Presidents: Joyce VK2DIX and Margaret VK3DML
Immediate Past President: Geraldine VK2NQI
Secretary: Jenny VK5ANW
Treasurer: Valda VK3DVT
Minute Secretary: Marilyn VK3DMS
Editor: Marlene VK5QO
Publicity: Margaret VK3DML
Awards Custodian: Mavis VK3KS
Contest Manager: Margaret VK3DML
Librarian: Bev VK6NYL
Souvenir Custodian: Joyce VK3VBK
Sponsorship Secretary: Jessie VK3VAN
Historian: Mavis VK3KS

State Representatives: *VK1 & 2 Narelle VK1NG, VK3 Marilyn VK3DMS, VK4 Margaret VK4AOE, VK5 Joy VK5YJ, VK6 Poppy VK6YF, VK7 Helene VK7HD.*

Sincere thanks to all the above for accepting or offering your services to ALARA and I hope it is an enjoyable task for you.

All ALARA members will join with me in a special thank you to Geraldine for the excellent job as President at the time we were going national rather than a VK3 based organisation. Also to Jessie VK3VAN who was Secretary for us through the same period. We do appreciate all you have done for ALARA. We hope you enjoy your new positions on the committee.

ALARA's eighth birthday was celebrated on air on 22nd August and was very successful with eighteen members present to wish ALARA many more birthdays. Greetings also were passed on from DX members ZL2QY, G4EZI, WA3HUP, WB3CQN and from Geraldine VK2NQI and Margaret VK4AOE.

Mavis VK3BIR, one of the early members of ALARA, suggested we start looking at a special function in 1985 for our tenth birthday.

Welcome to new members Carol VK5PWA, nice to meet you on the birthday net, Joan VK5KVJ and to sponsored member Ann K9RXK.

GI YL ACTIVITY DAY

First day of each month on the hour UTC.

Frequencies: 14.233, 21.333 and 28.433 MHz.

This is in addition to the usual activity day on the sixth day of each month.

ALARA's Third Contest is on Saturday 12th November starting at 0001 UTC, full contest rules were in September issue of AR page 50. A full list of ALARA members will appear in November issue.

Starting from this year a trophy will be awarded to the highest score over five years to a YL, not necessarily a member. So please mark this date on your calendar and see who will have a chance at the trophy.

Ruthanna WB3CQN one of our DX members is planning a visit to Australia in November and she is looking forward to meeting some of the members she has talked to. Ruthanna is one of our regulars on the contest.

That's all for this month, and hope to talk to you on the 12th of next month in the Contest. *33/73 and 88 to all.*

Margaret VK3DML

AR

SPECIAL EDUCATION QSP

Brenda VK3KT has available Trail Examination Papers:

Theory, Novice, AOCP, Regulations.

Also past CW exams from DOC. There are:

10 exams at 5WPM

10 exams at 10WPM

Ten exams fill a C60 cassette tape. INTERESTED? Send a tape and state your requirements and Brenda will transcribe it onto your tape.

Have you any complaints or other comments about the amateur examinations?

Please make your grievances known to Brenda VK3KT, your Federal Education Officer. Brenda may be found each Thursday evening on the Education Net at 1130 UTC, 3.685 MHz ± or write QTHR.

HERE'S RTTY!

Bruce Hannaford, VK5XI
57 Haydown Road, Elizabeth Grove, SA 5112

RTTY picture courtesy Steve VK2BGL.

SETTING THE SPEED OF MECHANICAL RTTY GEAR

In these days of sophisticated testing gear we have learned to expect so much of such equipment that at times we can't see the wood for the trees.

Many who use sophisticated gear to set their machines speed have overlooked many simple methods of achieving the same results. There are some quite simple but accurate methods of setting the speed (baud rate) of the Siemens 100 Teletype M15 etc. The following is mainly based on the Siemens 100 but the methods can be adapted to other machines as well.

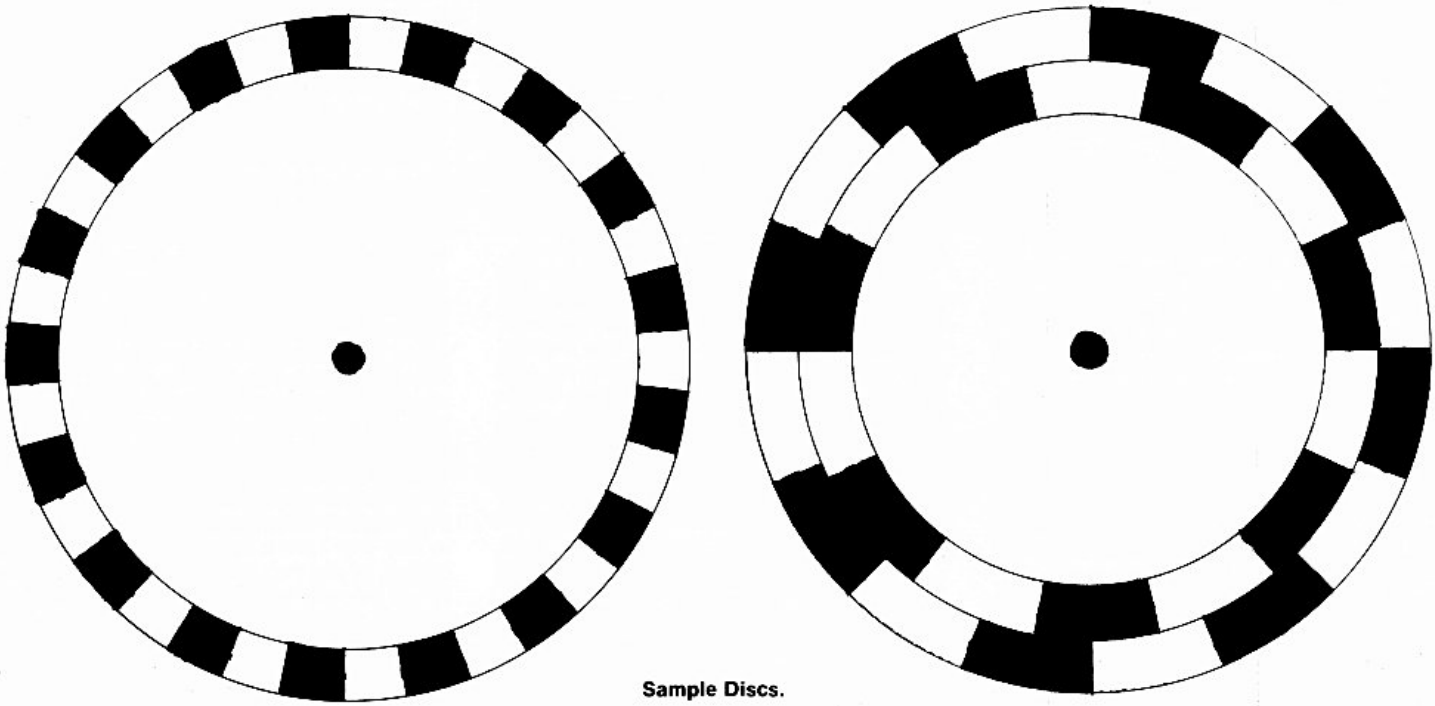
Looking at my Siemens in operation I noted that there are some slow moving parts where the revs could easily be counted visually using the second hand of a watch or better still a stop watch. One such part in the Siemens is the slow moving hours of use counter at the front right hand side of the machine. I noted its speed is reduced by going through two sets of gears. I only needed to determine the ratio from the motor to the final cog attached to the counter, count the final cog RPM and multiply by the ratio to get the motor speed. Obviously accurate results could easily be obtained without a tachometer or other such gear.

I determined the ratio by first counting teeth on the cogs and then checked it by turning the motor by hand and counting the turns required to give one turn of the counter cog, I found the ratio is 223/1. The motor speed for 50 bauds is stated in the handbook as 3750 so at our speed of 45.45 this is reduced in proportion to 3409 RPM or 56.817 per second.

The speed of the counter cog would be 3409 divided by 223 = 15.29 RPM. For comparison the 50 baud speed is 16.8 RPM. For accurate counting I marked the cog with a dob of white liquid paper and fixed a wire pointer to give a definite indicating spot. Holding a watch close to the cog and quickly glancing from the cog to the second hand from time to time I found an accurate count could be made. When I had the speed nearly right I counted for three minutes to get greater accuracy. Having done this I checked with some sophisticated gear and found the speed was quite accurate. With this method the machine need not be printing anything so keep loop current flowing while testing and avoid the machine running open.

If you have a different make of machine without an hour counter all is not lost as you can count how many operations per minute it is working at and check the speed in this way. This method has an advantage in that it is not necessary to know motor speeds and you may not have this information anyhow. Adding up the milliseconds in one operation signal such as a letter, using the normal 1.5 times stop pulse it comes to 165 milliseconds per operation this means 364 operations per minute (364 OPM). Operations including such machine function signals as carriage return or space etc. So if your machine is at the correct 45.45 bauds speed it could for example print a string of 364 letter "A" in one minute. In practice as the line length is much shorter than this five lines would be required, this needing five carriage returns and five line feed signals so only 354 letters could be actually printed out of a total of 364 operations.

If your machine has paper tape playing facilities get a few feet of perforated tape with



Sample Discs.

anything at all on it and starting about one inch from the start make a mark across the tape over a line of holes. Starting from this point play the tape for exactly one minute, stop the machine and mark the finishing spot of the tape (above the pins) then count the number of feed holes between the two marks. The count should be 364 if the machine is running at correct speed. The count is made easier if you use a pair of dividers set to say 50 holes to speed up the count.

If you have no tape playing facilities you can still use the OPM method by counting the revs of the ribbon spool as the machine is repeating a given character or function signal. As the ribbon travels from one spool to the other note which spool is winding the ribbon on and remove this spool from its winding shaft and fix a pointer to this shaft for the easy counting of its RPM. On the Siemens there is, above the centre of the keyboard, a tab switch marked with a string of five dots, if this is held pressed whatever the machine last printed or did will be repeated until you release the switch. With this key you can for example print a string of dots for a dotted line etc. Press the repeat key and note that the ribbon spool shaft slowly turns. Now with the pointer set to a marked spot tap the space bar counting as you do so, continuing until the pointer has done one turn and noting how many taps it took to make the pointer do one revolution. Try this several times and make sure you always get the same results as, if you don't, this method is useless on your machine. I found on my machine counting with the ribbon in place gave unreliable counts so that is why I recommend removing the spool. In my case I found that it needed 87 key operations for two turns of the spool this being 43.5 operations per turn. Well we know the machine should do 364 OPM at 45.45 bauds, we know 43.5 operations are needed for a rev of the spool shaft so it follows 8.37 revs per minute will be the correct spool shaft speed. Or for greater accuracy a three minute run will give just over 25 turns. As nothing needs to be printed for this test I used the space bar and then pressed the repeat key. If your machine does not have a repeat key locate the lever or device that, when moved, allows the sending shaft to start turning and holding this in the operating position you can do the same test.

Another method is to time how long it takes to print a line using the above repeat method. However I found it easier to time until the end of the line bell rang as I could then keep my eyes on the watch second hand counting the seconds until the bell rang. As you need to start at the beginning of a line you must have just sent a CR and LF signal and you don't want to repeat the last of these so you need to print one letter before you press the repeat key, in other words the line length to the bell or end of line will be one less than normal. In my case I found 59 repeats rang the bell and at correct speed that worked out at 9.73 seconds. Work out your own time figures, remembering that 364 OPM = 6.0666 per second or one operation = .1648351 seconds.

A good method of counting OPM is to use an ex PMG type counter, these can often be obtained at disposals stores, they are about an inch square and four inches long, on the front there is a four digit wheel type display. I believe there are two varieties, one for 12 and one for 24 volts, the 12 volt one is preferable for our purpose. The 12 V counter can be connected directly in series with the loop circuit if the current is between 20 and 40 mA, it will be slightly overloaded at such currents but will take it OK. If you have 60 mA loop current, shunt some resistance across the counter to keep the volts down to about 12 volts. The counter should be operated right side up and in a horizontal position.

With everything connected up, most likely each letter you type will advance the count by one, however it will be found some letters are unreliable and may give two counts. The counter operates and advances by one each time the current through it is interrupted. It follows that some letters or signals that go rapidly from mark to space will have more than one interruption and if the counter is able to follow such rapid pulses it will count them. I find the letters O or M are best to use as they both start with a long space and finish with a long mark so the counter will follow them OK. As the counter can not be reset to zero note the reading first and then repeat say M for one minute and the increase in count should be 364. Of course there will be a black blob at the end of the line as you do this but it will really do no harm for a short test. If you wish to avoid this the typing pressure can be reduced until no printing takes place while the test is being made. The Siemens has a lever to do this near the centre right of the machine as you look down into the works. This method is very accurate and it is well worth while getting one of these counters, mine cost me $1.50, a very cheap speed tester indeed.

Finally it is possible to use stroboscope methods to set the machine speed. Of course the accuracy of the result is only as good as the accuracy of the frequency of the testing source. A function generator with its digital counter feeding into an amplifier driving a flashing light can be very useful for this purpose. However this article is about simple methods without elaborate gear so we will stick to something simple. The AC mains are to most Australians a very reliable and accurate 50 Hz so we will use this frequency for our flashing light. As there is a negative and a positive pulse for each cycle there are two flashes per mains cycle or 100 flashes per second. Incandescent lamps don't cool off completely at the zero current parts of the cycle so don't give a perfect pattern on a strobe disc, fluro lights give a much more distinct pattern and are to be preferred.

As there are 100 flashes per second from our light to make a strobe disc pattern appear stationary there must be 100 white spokes or segments past a given point per second. However a somewhat blurred pattern will also be seen if the number of segments are half or double this number and even greater fractions or multiples may sometimes be seen. Of course there are the same number of black segments as white but for simplicity sake I am sticking to only mentioning the white segments.

Stroboscope relationships can be summed up as follows.

White segments = flashes per sec divided by the speed in revs per sec.

Speed (revs per sec) = flashes per sec divided by the number of white segments.

Flashes needed to stop the pattern = number of white segments times the speed in revs per sec.

By the above means knowing any two of the factors you can calculate the third.

For the Siemens machine, if you have no paper tape playing facilities fitted to the right hand front of the machine, there is a shaft running parallel to and near the front of the machine. The right hand end has a washer held on to the end of the shaft with a metal screw. A small strobe disc can be fitted under this screw if some spacing washers are used to bring the disc out clear of surrounding stationary metal. This shaft turns at 363.6 RPM or 6.06 RPS so we divide the flashes by the speed to get the number of segments needed. 100 divided by 6.06 = 16.5 segments.

Now as we need a whole number of segments we will use 17 instead of 16.5. With the 17 segment strobe the pattern will turn slowly clockwise in the direction of the shaft rotation at the correct speed. We could put two tracks on the strobe disc, one of 16 and one of 17 segments. In this case one pattern would turn slowly clockwise and one slowly anti clockwise, however the 17 pattern alone will be sufficiently accurate if it is slowly turning clockwise.

Now those who do have tape facilities fitted can't use the shaft we have been discribing so at the back of the machine near the terminal connecting block is the short end of a shaft driven from the motor pinion cog. This shaft turns at 779.2 RPM or 12.986 RPS but let's put it into round figures and say 13 RPS.

Unfortunately the speed of this shaft is such that the number of segments needed is between 7 and 8 actually 7.7 segments making 8 the closest number. All these figures are of course for 45.45 bauds. Well we got around this problem in the following way. We use a strobe disc with both 7 and 8 segment tracks knowing one pattern will appear to rotate clockwise and the other anti clockwise and that the 8 segment pattern will rotate the slowest. With the machine operating at 50 bauds the 7 segment pattern will appear stationary. If the 8 segment pattern appears stationary the machine is set at 43.75 bauds. Now if the machine is correctly set at 45.45 bauds the 8 segment track is rotating anti clockwise at a fair speed and the seven track is rotating rather fast in a clockwise direction. The seven segment track will be moving so fast it will be just possible to see a blurred set of segments. Now as the shaft speed for a stationary pattern on the 8 segment track is 12.5 RPS and not the speed we require of 13 RPS, there is a difference of .5 rev per second or 30 per minute. Now it is possible to count this 30 per minute in the following way. Watching the 8 segment track pattern revolving follow it with a pen held close to it. Turn the pen at the same speed as the pattern rotation. After a bit of practice you can do this reasonably accurately, count the number of pen rotations per minute and they should be 30. Once you have obtained the correct speed in this way take a good look at the overall picture of the two revolving patterns and in future you will not need to do any counting just set the speed so the patterns look the same as they now do. Strobe discs can be made using white cardboard. Make the centre hole small so it will be tight on the shaft it is to be attached to, as this will be sufficient

attachment. Two sample discs are shown to assist you. Much more could be said about this and the other methods mentioned but we will leave it at this point and conclude with a few final statements.

How accurate does the speed need to be? I note with my Siemens set exactly to 45.45 bauds I can still copy more than half of a 50 baud transmission. If a machine were to be set between 45.45 and 50 bauds no doubt it could print both quite well however it would not be desirable to use this non standard speed for transmission. The Siemens has a control lever inside at the right front of the machine, there is a 0 to 120 scale for this range finder control. The control determines what part of the received signal pulses are sampled (usually the middle part is sampled) normally the control is set at about 50. Now if the incoming signals are not quite the same speed as your machine, different settings of the range finder can often be used to assist in getting a good print. In other words the range finder can be used like a speed control when receiving, it will however only cope with slight speed inaccuracies.

Well I trust all this will help those with mechanical machines and especially those who have aquired one of the many ex Telecom Siemens machines recently released.
73 from Bruce VK5XI

AR

SPECIAL INVITATION

Some years ago a group of ex RAAF personnel conceived the idea of a memorial lawn at Adelaide Airport. The Air Force Memorials Adelaide Airport Committee was formed to establish and administer this memorial and in the subsequent years many squadron and unit plaques have been dedicated.

Recently, ex Signals and Radar personnel, who formed an association in the immediate post-war period, decided that they should also have a memorial plaque.

DEDICATION OF MEMORIAL PLAQUE

RAAF SIGNALS AND RADAR

An invitation is extended to all ex members of Signals and Radar Units of the RAAF to attend the dedication ceremony of a memorial plaque at the Adelaide Airport on Sunday 30th October 1983* at 11.00 AM. Family and friends welcome.

The Chief of Air Staff, Air Marshall S D Evans, AO, DSO, AFC, has been invited to represent the RAAF at the Dedication Ceremony.

Any member who may wish to contribute to the expense of this venture may do so by sending a donation to the Honorary Secretary, Reg Hart, 67 Port Wakefield Road, Two Wells, 5501.

John Allan, VK5UL.
Ray Deane, VK5RK.
Committee Members.

* Note: Sunday 30th Oct is the first day of daylight saving in SA.

AR

WICEN NEWS

Peter Jeremy, VK2PJ
VK2 BROADCAST & WICEN
LIAISON OFFICER
PO Box 1066, Parramatta, NSW 2150

VK2 WICEN REGIONAL MEETING

On Saturday 30th July, a group of amateurs and friends from the NSW Central West attended a meeting at Canobolas High School, Orange, to discuss WICEN and amateur emergency communications.

The meeting was opened with addresses from Robert VK2ZRJ, Central West WICEN Co-ordinator, Sue VK2BSB, Divisional President, and David VK2ZMZ, State WICEN Co-ordinator.

Amongst the items discussed were:

— Third Party amateur emergency communications and exercises
— WICEN emergency communications and exercises
— Use of "W"-series WICEN callsigns for exercises and emergencies
— Qualification requirements for WICEN operators
— Training of amateurs for third party emergency communications and WICEN procedures
— Publicity stemming from WICEN operations

Motions passed included: that the WIA and WICEN outline the distinctions between third party and WICEN traffic handling procedures, that references to other certificates be deleted from the WICEN membership card, and that consideration be given to a name change for WICEN incorporating the words 'amateur radio'.

Overall, the meeting was very successful in resolving several matters that had caused local WICEN members some concern.

AR

Photo courtesy of John VK2AMV.

Left to right (standing): John VK2AMV, Alan VK2BVL, John VK2BHM, Graham VK2BVU (behind), Chris VK2APP/XYL, Frank VK2ZFE, Kim VK2ASY (behind), Bob VK2DSM, Ian VK2KMA (behind), Sue VK2BSB, Peter VK2TK (behind), Barry VK2AAB, Peter VK2PJ, David VK2ZMZ, Bruce VK2DEQ, Jack VK2DDN.
Seated: Wally VK2DEW, Naville VK2DR, Peter VK2APP, Ross VK2BRC.

NOTICE

Copy for December magazine (columns, Hamads, etc) must arrive at Box 300, Caulfield South, 3162 no later than 25th October. Also please note the early deadline for January 1984 — 18th November.

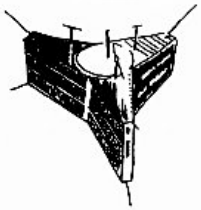
QSP

RF ENERGY IN LIGHTING

RF energy will be used in two lighting devices now being developed in the USA. One is an RF light bulb designed for conventional household use. The other is an RF ballast that replaces the conventional ballast in fluorescent fixtures.

The units will use RF energy between 20 and 100 kHz and have a potential for interfering with AM broadcast reception if not adequately controlled.

Adapted from "The ARRL Letter" Vol 2, No 16.



AMSAT AUSTRALIA

Colin Hurst, VK5HI
8 Arndell Road, Salisbury Park, SA 5109

NATIONAL CO-ORDINATOR

Graham Ratcliff VK5AGR

INFORMATION NETS

AMSAT AUSTRALIA
Control: VK5AGR
Amateur Checkin: 0945 UTC Sunday
Bulletin Commences: 1000 UTC
Winter: 3.680 MHz
Summer: 7.064 MHz

AMSAT PACIFIC
Control: JA1ANG
1100 UTC Sunday, 14.035 MHz

AMSAT SW PACIFIC
Control: W6CG
2200 UTC Saturday, 21.280 MHz

Participating stations and listeners are able to obtain basic orbital data including Keplerian elements from the AMSAT Australia net. This information is also included in some WIA Divisional Broadcasts.

ACKNOWLEDGEMENTS

Contributions this month were received from Bob VK3ZBB, Graham VK5AGR, Peter VK7PF and thanks are extended to AMSAT Telemail and UOSAT Bulletin Board for excerpts.

OSCAR 10 (as at 18 August)

Following the successful initial burn of the kick motor as reported last month the second burn of the motor was awaited with considerable anxiety by the AMSAT crew on the 26th July, as the telemetry had been indicating that the Helium Pressure on board the spacecraft was slowly decreasing. This was believed to be as a result of the collision that occured at separation of the spacecraft from the launch vehicle. Their worst fears were realised when it became apparent that the motor failed to fire as there was insufficient Helium to open the valves in the motor. Consequently the spacecraft will now remain in its initial transfer orbit and as such will favour southern hemisphere operators more so than the intended orbit. Following a period of re-orientation the Mode B Transponder was switched on at 1430 UTC on the 6th August. Results on the first evening were most disappointing as only the "moon-bouncers" with their kilowatt ERP signals could access it. On the following day the gain antennae were initiated on both receive and transmit and the passband literally came alive with signals. Since then world-wide VHF communication has become a reality and numerous record breaking distance QSO's have taken place via the satellite. Under ideal conditions ERP's of 100 watts can be utilised to reliably communicate however the general rule is that ERP's of the order of 500-1000 watts are being used much to the detriment of the lower powered stations. It is hoped that once the initial enthusiasm of DX operation through Oscar 10 has passed that a more responsible attitude will prevail and that ERP levels will be restrained to the minimum levels required for communicating.

Perhaps the following message from DJ4ZC Posted on Telemail tells all . . . *"Telemetry of transponder — AGC shows values between -15 and -22 dB during most of the time — in other words: if most stations would reduce their power at least tenfold, nothing would change other than that weaker stations would get louder. Please spread the word . . . 73 Karl . . ."*

OSCAR 10 BANDPLAN

The following bandplan has been published by AMSAT and all users of Oscar 10 are requested to adhere rigidly to the plan to ensure that the maximum benefit is gained by all users of the transponder.

Uplink	*Downlink*	
	145.987	Engineering beacon
435.025	145.975	SSC H1
435.035	145.965	SSC H2
435.038	145.962	SSB only — Upper limit
435.080	145.920	SSB only
435.080	145.920	mixed SSB/CW
435.120	145.880	mixed SSB/CW
435.120	145.880	CW only
435.162	145.838	CW only — Lower limit
435.165	145.835	SSC L2
435.1.5	145.825	SSC L1
	145.810	General Beacon

The Special Service Channels (SSC) are for special purposes (eg bulletins, scheduled experiments, etc) and must not be used for normal transponder communication.

WHERE IS OSCAR 10?

This question appears to be the most asked of any pertaining to the new spacecraft. To date the most successful method is to have a home computer able to run one of the many excellent programmes available to compute the relevant azimuth and elevation bearings that you require. However this is impractical for those who do not own a computer, nonetheless I am sure of at least one amateur in each capital city of Australia who does and as such does help out others with the info. I am aware that an article is soon to appear in ORBIT Magazine entitled the SATELLIPSE by K2ZRO the inventor of SATELLABE, an excellent circular orbit calculator. It is expected that his SATELLIPSE will at least be the equal of SATELLABE. In the meantime I suggest that you make friends with a fellow amateur who does own a computer, alternatively listen to the AMSAT Australia Net on Sunday evenings for the latest data. Nonetheless it has been reported, albeit unsubstantiated, that the current orbit of Oscar 10 has a repeatability of every nineteen days. Should this be the case the tracking will be simplified significantly. I have no doubt that there will now be a profusion of tracking kits come onto the market and I will endeavour to seek them out and evaluate them for this column.

UOSAT OSCAR 9

The following four items are from Bulletin 37, 12 August and once again our thanks to the UOSAT Team.

PACSAT NEWS

G3YJO, G8NOB and G8NEF from UoS attended the PACSAT design meeting near Boston, USA last weekend. The meeting ran from Friday to Sunday afternoon and was attended by members of the PACSAT design team from USA, UK and Canada. The basic spacecraft systems philosophy, interface, schedules and budget were detailed in addition to the definition of communications formats and systems design. The PACSAT mission will give radio amateurs access to store and forward digital communications using packet radio techniques, providing a communications service similar to, but more extended, than the low earth orbit analogue transponders of AO-6, 7 and 8. It is anticipated that the PACSAT spacecraft will be launched into a low (850 km) polar earth orbit in the 1985-6 timeframe. Further details of this new project will be posted on the bulletin shortly.

Miki Nakayama, JR1SWB, visited the University of Surrey on Thursday 4/8/83 to discuss various aspects of the JAS-1 spacecraft and to exchange information on the British and Japanese AMSAT operations. JAS-1 will carry a PACSAT-type digital transponder due for launch in 1986.

HF EXPERIMENT

Although the on-board telemetry indicates that all of the HF beacons are functioning correctly (including synthesiser lock), signals have only been received from the 21 MHz beacon. Preliminary tests have not been able to receive signals from the 7, 14 and 29 MHz beacons. As the boom was to contribute to the 7 MHz antenna system and in view of the QRM and propagation mode on that frequency, it is perhaps not surprising that signals have yet to be received from that beacon. The lack of signals heard on the ground from the 14 and 29 MHz beacons indicate that there may be a problem with the deployment of one of the HF antennas — as those beacons share one and the 7 and 21 MHz the other. Further analysis will continue.

SPACECRAFT ATTITUDE

Analysis and preparations have been completed for magnetorquer attitude manoeuvres to reorient the spacecraft spin axis and introduce a slow Z-spin to improve the temperature gradients and improve the

power budget. Preliminary manoeuvres were carried out on Tuesday this week, and will be continued next week.

CCD TRANSMISSIONS

In view of the number of requests that have been received for CCD transmissions, CCD data will be scheduled for transmission on Wednesdays and may comprise either image data or test patterns. The data transfer, memory and transmission mechanisms are functioning well, however the CCD sensor itself has not yielded images up to the anticipated quality standard. Notwithstanding the poor quality of the image data, the transmissions are still of value to those stations who possess image processing facilities or who wish to study/check ground-station decoding/display equipment.

RUSSION RS SATELLITES

Although I have received no specific reports as to how active these satellites are in the VK-ZL region I did overhear UA3CR via Oscar 10 extolling the virtues of these satellites to fellow European stations. They are indeed excellent Mode A Transponders and afford beginners to Satellite Communication the opportunity to come to grips with the techniques and procedures necessary to conduct a contact. More importantly because of the sensitivity of the onboard receivers high power uplinks are totally unnecessary.

OSCARS 7 AND 8

No reports of either satellite has come to hand in the past month on a world-wide basis. Any person who hears either satellite is asked to communicate the time and date of the reception of signals to VK5AGR-QTHR.

ORBIT PREDICTIONS

Following numerous requests for orbital predictions I have compiled the following table from the latest elements available at the time of preparing this column. In some instances the elements will be markedly incorrect by the time you receive this issue and this should be taken into account should you use them. Remember up to date elements are available each Sunday evening on the AMSAT Australia net.

KEY: *AC — Amateur Communications*
M — Manned
TV — Television
TM — Telemetry
IP — Interplanatary Station
ESA — European Space Agency
GS — Geosynchronous
CS — Communications
SI — Scientific Instrumentation
SR — Space Research
† — Downlink Frequency 2250, 2287.5 MHz
M — Cosmonauts Liakov and Aleksandrov*

SATELLITE UPS AND DOWNS

LAUNCHES TO 23 JUNE

NUMBER	NAME	NATION	DATE	INITIAL DATA PERIOD MIN	APOGEE KM	PERIGEE KM	INCLN DEG	FACILITIES REMARKS
1983-048A	COSMOS 1464	USSR	24 May	104.9	1022	985	82.9	TM SI
1983-049A	COSMOS 1465	USSR	26 May	93.4	551	349	50.7	TM SI
1983-050A	COSMOS 1466	USSR	26 May	89.7	367	180	64.9	TM SI
1983-051A	EXOSAT	ESA	26 May	5435.4	191 709	347	72.5	SR
1983-052A	COSMOS 1467	USSR	31 May	90.0	389	209	72.9	TM SI
1983-053A	VENERA 15	USSR	2 Jun	—	—	—	—	IP SI
1983-054A	VENERA 16	USSR	7 Jun	—	—	—	—	IP SI
1983-055A	COSMOS 1468	USSR	7 Jun	89.3	283	277	82.3	
1983-056A	NA	—	9 Jun	—	—	—	—	
1983-056C	NA	—	9 Jun	—	—	—	—	
1983-056D	NA	—	9 Jun	—	—	—	—	
1983-057A	COSMOS 1469	USSR	14 Jun	—	—	—	—	
1983-058A	ECS 1	ESA	16 Jun	627.0	35 600	200	8.6	CS
1983-058B	OSCAR 10	AMSAT	16 Jun	627.2	35 595	199	8.6	AC
1983-059A	STS 7	USA	18 Jun	90.4	296	291	28.5	M†
1983-059B	TELESAT 6	CANADA	18 Jun	640.9	36 190	303	23.0	To be GS CS TV
1983-059C	PALAPA B1	INDO	19 Jun	662.9	37 288	324	24.6	To be GS CS TV
1983-060A	SPAS 01	GER	22 Jun	90.5	300	295	28.5	
1983-060A	NA	—	20 Jun	—	—	—	—	
1983-060C	NA	—	20 Jun	—	—	—	—	
1983-061A	COSMOS 1470	USSR	23 Jun	—	—	—	—	

During the period the following satellites decayed or were recovered:

1983-039A	COSMOS 1457	Jun 8
1983-045A	COSMOS 1462	May 31
1983-052A	COSMOS 1467	Jun 12
1983-055A	COSMOS 1468	Jun 21

A further 33 objects decayed during the period.

The following updated positions are reported:

1966-100A	ATS 1	163.48°E 5.37°N	I 10.976°
1967-111A	ATS 3	105.7°W	I 9.868°
1975-100A	GOES 1	103.390°W	I 3.660°
1977-048A	GOES 2	106.970°W	I 1.762°
1978-062A	GOES 3	90.591°W	I 1.276°

Transmitting frequencies: (MHz)

ATS 1	136.459	137.349
ATS 3	136.470	137.350
GOES 1	136.379	
GOES 2	136.380	
GOES 3	136.380	137.190
NOAA 6		
NOAA 7	136.770	137.770
NOAA 8		

LAUNCHES FROM 27 JUNE-20 JULY 1983

1983-062A	SOYUZ T9	USSR	27 Jun	90	303	258	51.6	M*
1983-063A	—	—	27 Jun	—	—	—	—	
1983-064A	COSMOS 1471	USSR	28 Jun	89.7	369	182	67.2	TM SI
1983-065A	GALAXY 1	USA	28 Jun	642.4	36 365	203	22.9	SL
1983-066A	HORIZONT	USSR	1 Jul	1479	26 600	—	1.3	TV CS
1983-067A	PROGNOZ 9	USSR	1 Jul	26.7 day	720 000	380	65.5	SI
1983-068A	COSMOS 1472	USSR	5 Jul	88.8	264	197	82.4	TM SI
1983-069A	COSMOS 1473	USSR	6 Jul			069A to 069H		
1983-069B	COSMOS 1474	USSR	6 Jul			are all		
1983-069C	COSMOS 1475	USSR	6 Jul	115.1	1511	1448	74	TM SI
1983-069D	COSMOS 1476	USSR	6 Jul					
1983-069E	COSMOS 1477	USSR	6 Jul					
1983-069F	COSMOS 1478	USSR	6 Jul					
1983-069G	COSMOS 1479	USSR	6 Jul					
1983-069H	COSMOS 1480	USSR	6 Jul					
1983-070A	COSMOS 1481	USSR	8 Jul	718	40 165	615	62.8	
1983-071A	COSMOS 1482	USSR	13 Jul	90.2	376	217	70	
1983-072A	—	—	14 Jul	—	—	—	—	
1983-073A	MOLNIYA 1	USSR	17 Jul	700	39 025	480	62.9	TV CS
1983-074A	COSMOS 1483	USSR	20 Jul	—	—	—	—	

The following satellites were recovered or decayed during the period:

1983-050A	Cosmos 1466	6 July
1983-068A	Cosmos 1472	19 July

together with 11 other objects.

ORBITAL PREDICTIONS

Satellite Name	Oscar 7	Oscar 8	Oscar 9	Oscar 10	RS3	RS4	RS5	RS6	RS7	RS8
Catalogue Number	7530	10703	12888	14129	12997	13000	12999	13002	13001	12998
Bulletin Reference	NASA#492	NASA#783	NASA#496	KA9Q	NASA#72	NASA#131	NASA#103	NASA#60	NASA#116	NASA#236
Epoch Year 83 Day	212.85422125	218.49568460	217.89605163	222.0000	191.32021167	211.69734955	214.31659598	213.21141136	207.40479652	212.27882435
Inclination	101.4063	98.7540	97.5489	26.1660	82.9597	82.9635	82.9597	82.9615	82.9605	82.9600
Right Ascension	210.2418	228.7723	184.2381	247.1180	323.1865	317.5611	317.0707	312.3350	318.5280	319.4171
Eccentricity	.0011974	.0006300	.0004136	.0636909	.0058523	.0017937	.0011375	.0049350	.0021233	.0020364
Argument of Perigee	151.4280	181.2384	118.3726	193.1950	346.4632	18.9526	48.5754	316.6699	347.9504	91.6040
Mean Anomaly	208.7474	178.8697	241.7941	119.1280	13.4858	341.2199	311.6287	43.0494	12.1058	268.7395
Mean Motion	12.53385175	13.96570992	15.22662067	2.05851732	12.15577793	12.06661212	12.05038381	12.13553810	12.08675075	12.02936482
First Derivative	-.00000006	.00000078	.00004163	0	.00000003	.00000004	.00000004	.00000004	.00000003	.00000004
Epoch Revolution	39842	27626	10136	118	6925	7119	7141	7178	7079	7104
Ascending Node Reference Orbits										
Orbit Number	40007	27731	10229	—	7323	7208	7258	7309	7280	7245
Time UTC	0034.98	0026.27	0010.90	—	0151.46	0157.52	0043.80	0016.24	0101.12	0008.16
Long Deg W	107.73	92.51	132.24	—	42.80	29.35	19.07	17.58	25.78	8.86
Node Date	14 Aug	14 Aug	12 Aug	—	12 Aug	7 Aug	12 Aug	12 Aug	12 Aug	12 Aug

de VK5HI **AR**

POUNDING BRASS

Marshall Emm, VK5FN
Box 389, Adelaide, SA 5001

LEARNING THE MORSE CODE

If all goes according to plan, this should appear in Amateur Radio in early October, giving you a month to six weeks to try some of the recommended techniques before the November examination. Surely by this time you have learned the code and it is just a matter of getting your speed up, but even if you haven't you should still have adequate time to prepare for the exam — if you are able and willing to practice. There are no magic recipes which will qualify you as a brass-pounder overnight. There are a number of tips and techniques which can make the job easier, but ultimately it's up to you.

When Mr Samuel Morse invented his code, he had no idea anyone would ever be trying to copy dits and dahs from wireless transmission. In the first place, the code was devised for use on the land-line telegraph. In the second place, the intention was for the signals to be transcribed onto a paper tape by a swinging pen, and then read by sight. Once operators learned the code they quickly found that they could recognize incoming characters by the clicks the pen made, and it wasn't long before they realised that it was actually easier, so the pen gave way to the sounder.

The Morse code consists of patterns of short sounds and long sounds, interspersed with spaces. Forget you ever heard of dots and dashes (at least till you've learned the code) and think of the short sounds as "dits" and the long sound as "dahs". This gives you a useful way to represent the sound of the code any time you want — your own voice.

And here, already, is your first secret technique to help make the job easier — now that you know how to say a Morse code letter by using dits and dahs, forget you ever heard of dits and dahs! What you are really interested in is the sound of a letter.

For example, when you hear the sound "di-di-dit" you should recognise the sound as representing the letter S. You should not count the dits. Take a more difficult one now, "di-di-dah-dit". Say it over and over to yourself until you recognize the sound of an F without having to think of it in terms of a bunch of dits with a dah toward the end.

The sound of the dits is written without the T (except for the last one) for a very good reason — they have to be said quickly, and you can't manage that if you say "dit-dit-dah-dit". Try it — "dit-dit-dah-dit . . . di-di-dah-dit."

You should now be ready to learn another secret technique, which is speed. You should learn the characters at a speed high enough that they sound like Morse characters, not individual dits and dahs. While you are learning the code, the character speed should be eight to ten words per minute (*I'm not kidding!*) with extra space in between the characters to slow the message speed down to something you can handle. This is called proportional spacing.

An exercise which I use when introducing someone to the code for the first time is to send the letter S at a speed of fifty words per minute. Just once, all by itself. Most people can recognize it without difficulty. This proves that there is no problem in hearing code characters and remembering them — the problem is in coverting them into letters!

You should by now be ready to start learning the code — you've had all the tools you need since the day you were born; it is simply a matter of applying them (or applying yourself) to the task at hand.

Ideally you should listen to pure audio tones, such as those sent over the air or by a good practice oscillator driven by a competent operator. You certainly can learn the code characters by saying them to yourself all day long, without benefit of an instructor or tapes, but there are easier ways.

If you can get someone to send to you, have them send at a character speed of 8-10 WPM, spaced out so they send a character every three or four seconds. This gives you plenty of time to recognise the character, but not enough time to mentally go through the whole alphabet until you locate it.

You need a programme for learning the characters, so I would suggest the following groups, which give you easy letters mixed with hard ones so you aren't tripped up by Qs, Js, Xs and Zs which you would probably have put off till last.

AXSET HBDIJ OPQRM ZCGNV UYLKWF 12345 67890

Learn each group thoroughly on its own, then add it to the letters already learned, then make up words using the letters learned. Leave the numbers until you have mastered the letters, and you will find them a lot easier.

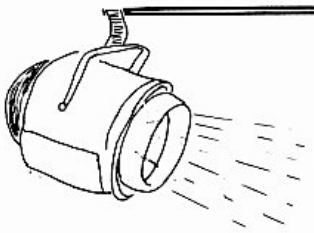
DO NOT GO ON TO THE NEXT GROUP UNTIL YOU HAVE MASTERED ALL OF THE LETTERS LEARNED SO FAR.

You can get a lot of practice in by writing the group you are studying on a bit of paper (writing dits and dahs, of course, not dots and dashes!) and glancing at it while on the bus, or at work, or whenever you have two minutes to yourself.

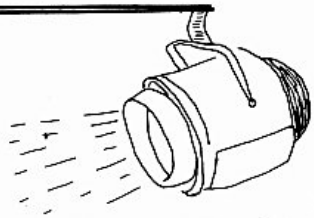
Once you have learned the first group you can start listening to practice tapes and the Slow Morse Broadcasts (VK2BWI, 0930 UTC, 3.550 MHz and VK5AWI, 1030 UTC, same frequency). Just worry about picking out the letters you recognise, and form a good habit now — if you miss a letter forget it and concentrate on the next one. If you strain too hard to remember a letter, you will miss the next several letters and that's a circumstance which could cost you a pass on the exam.

Once you've learned the code, it's just a matter of getting your speed up to the required level (or the level you desire, which should be higher than the required level). The only way to get your speed up is to practice, whether its listening to tapes or live code on air, having a friend send to you, or calling out license plates from passing cars. But next month we'll give you some more ideas for practice and getting you up as fast as you want to go.

Till then, 73. **AR**



SPOTLIGHT ON SWLing



Robin Harwood, VK7RH
5 Helen Street, Launceston, Tas 7250

Well, October has arrived as 1983 rapidly draws to its conclusion. Hopefully, by now, propagational conditions will have improved a little as the daylight lengthens. I have already noticed a marginal improvement, however, judging from observation made in the Northern Hemisphere by SWL's, signals on frequencies above 17 MHz and higher, have not been as reliable as past years over the Northern summer. The sunspot count is steadily decreasing and the presence of sudden ionospheric disturbances (SIDS) are frequently contributing to a somewhat unsettled HF spectrum.

During our local winter months, propagation of the lower frequency bands has been quite reasonable. However, you will find that the amount of atmospheric static from thunderstorms will render signals in these allocations virtually unintelligible, especially during the hours of darkness. It does not seem quite as noisy, particularly here in Launceston, on observations made just after sunrise, compared to those made in the evenings.

MERRY-GO-ROUND

While we are on sunspot counts, I noticed that "Shortwave Merry-Go-Round" from Swiss Radio International has re-introduced the monthly sunspot count, after an absence of eighteen months. Observations come from the Royal Belgian Observatory, which happens to be based in Switzerland. The programme is hosted by Bob Thomann and Bob Zanotti and mainly consists of replying to listener's queries about radio and shortwave listening. I do believe that one of the comperes is an active amateur. The best time to hear this in the eastern states is at 0705 hours UTC on either 9.535 or 9.560 MHz on Saturdays. Western Australians will hear it much better at 0905 on either 15.305 or 9.560 MHz. Incidentally, "Shortwave Merry-Go-Round" is only aired on the second and fourth Saturdays of the month.

IONOSPHERICS

If you want to know how the ionosphere is behaving on a daily basis, I suggest that you use the daily bulletins over the American Standard Frequency Station, WWV at 18 minutes past the hour to keep in touch with the latest state of propagation. The station is located at Fort Collins, Colorado and can be heard on either 2.5, 5, 10, 15 or 20 MHz.

UPGRADING

At present, the Voice of America — the US government external service — is currently trying to get Congressional approval for funding to upgrade their technical facilities worldwide. Many senders were manufactured during the Second World War, and maintenance of these is increasingly becoming a big headache, for spare tubes or parts are in short supply, as manufacture of these ceased many years ago.

Although the Reagan Administration is in favour of the funds for the upgrading, the US Congress is trying to trim the size of the American budget deficit. Hence the delay of these funds. In his briefing to a Congressional committee, the Director of the United States Information Agency — the parent organisation of the VOA — pointed out that those nations who jammed VOA and other western broadcasts, expended about three times the total allocation of funds that the "Voice" budgeted for to present programmes, to try and suppress or jam signals from reaching their target audience. This information I heard over "Media Network" — Radio Nederlands weekly communications magazine. I expect that eventually the USIA will get their funding.

INTERNATIONAL SATELLITE TV???

Yet technology may overtake them, for I heard an inverview on the BBC World Service, with Peter Frankel, controller of the BBC European Services, In it, he predicted that by the year 2001, Direct Broadcasting Satellites will be in use to send television from one nation to another. This would make international broadcasting obsolete via shortwave radio. Already the Soviet Union is utilising domestic broadcasting of TV via satellite to Siberia, Eastern Europe as well as to Cuba.

The ABC utilises two transponders on the Intelsat at present to send programmes into the outback. As well, in 1985, the Aussat Communications Satellite will carry both ABC and commercial programmes into the interior. I am also informed that recently there was an international conference to allocate what channels would be available for Domestic Satellite Broadcasting in the Americas. So perhaps in the future, we will be watching International Satellite TV in our homes, instead of listening to sound broadcasting on shortwave.

Regular listeners to the BBC Far Eastern Relay in Kranji (Singapore) will have by now noticed an improvement in audio quality on the signal. The secret behind this is that from the 1st August, the studios in Bush House are directly linked by satellite to the Kranji transmitters. This means that they no longer have to re-broadcast audio off shortwave feeders, so the mushiness that was indicative of a shortwave relay is a thing of the past. Other BBC relay bases in Lesotho (near South Africa) and at Ascension Island will also come on stream with the satellites in the near future instead of relying on a shortwave feeder.

RTTY

I mentioned in last month's column, I had been trying out a Tono 9000E communications terminal. Well, it has become a permanent fixture in my shack and I am slowly gaining confidence in transmitting RTTY. When not transmitting, I usually use it to monitor many different stations that use this mode. However, I do find that not all stations on RTTY will print out. For example, Soviet stations employ a third shift to accommodate their cyrillic alphabet. They also use non-standard shifts of either 500 or 1000 Hz frequency shifts. The many Japanese marine coast stations employ a six bit code and maritime stations worldwide have a seven bit code instead of the five bit standard employed by commercial stations. This is, presumably, to overcome phase distortion or dropouts on the circuit.

Talking of dropouts, I particularly note that CW signals often will not print up on the VDU. The signal has to be at a consistently high level to provide an accurate readout. Machine sent copy, I find, is more reliable than hand-generated copy. For example "ARE" may either be "AL" or "AAE" or vice versa. This means that the only truly reliable copy is that obtained from aural means to that of a mechanical readout.

My unit has facilities for ASCII, but I have yet to hear any fixed or amateur station employing this mode on RTTY. I mentioned in previous columns of the decision of Radio Nederlands to halt their experiments with computer data transfer via shortwave radio. Because of the high Baud rate required, quite a lot of the copy would be lost. I have noticed this from observing the number of dropouts on RTTY at 74.2 Baud myself. So I do not expect that there will be many transfers over distances with ASCII. I have noticed that more amateurs are using the AMTOR mode. You can hear them on approximately 14.075 ± especially at weekends. From my rudimentary knowledge of it, it is an error correction code. It does not print up as RTTY either. Many marine coast stations employ a variation of this mode called SITOR. What about somebody writing an article on how amateurs can be involved using this for "Amateur Radio"? I am sure that there are many of us who would appreciate keeping up with the State of the Art.

Well, that is all for this month. Until November, the best of 73's and good listening.

Robin, VK7RH

AR

NATIONAL EMC ADVISORY SERVICE

Tony Tregale, VK3QQ
FEDERAL EMC CO-ORDINATOR
38 Wattle Drive, Watsonia, Vic 3087

POWER LINE INTERFERENCE — Incidental radiation, levels and limits

Electrical Power distribution systems are intended and required to transport electrical energy — Nothing else! . . . Incidental Radiation is Spectrum Pollution.

In the western world's most industrialised and technically advanced country, the United States, a power distribution system is classified as an Incidental Radiation Device . . . *"A device that radiates electromagnetic energy during the course of its operation although the device is not intentionally designed to generate electromagnetic energy. An incidental radiation device shall be operated so that any electromagnetic energy that is emitted does not cause harmful interference. In the event that harmful interference is caused, the operator of the device shall promptly take steps to eliminate the harmful interference. Harmful interference is the emission, radiation and induction which endangers the functioning of a radio-navigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a RADIOCOMMUNICATION SERVICE"* . . . (FCC R & R part 15).

There is a very large amount of technical material available which covers in great detail, the causes, the effects, the location of, and the proposed cures for Power Line Interference. However, when we get right down to the "nuts and bolts" of the situation, it boils down to, economic excuses and apathy . . . INTERFERENCE FROM POWER DISTRIBUTION SYSTEMS CAN BE ELIMINATED AT THE SOURCE!

Most of the PLI which affects members of the community, members of the Amateur Radio Service, and various professional and business communications services is produced by lines and equipment operating at or below 66 kV. So for the moment we can exclude corona discharge which is, mainly, associated with lines and equipment above 66 kV.

When considering overhead power lines and associated distribution equipment we can, for the ease of understanding, make an analogy with radio transmitting antenna construction and operating procedures. Both overhead power distribution systems and antenna systems use, insulators, wire, and hardware; and both cases involve high voltages. In both systems insulators are intended to insulate, or separate, one potential from another. Wire is there to transport/interface the energy. Hardware is required for physical support.

In designing and constructing radio communications antenna systems, communications engineers ensure that the insulators and other antenna equipment will withstand potentials well in excess of those which the transmitter power will produce. Great care is taken to ensure that all connections, joints, and hardware bonding is first class. This is not only necessary to ensure a good "clean" transmission but also to ensure that unwanted noise, which could play havoc with other nearby electronic equipment, is kept to an absolute minimum . . . CAN WE SAY THE SAME ABOUT POWER LINES?

Like insulators in antenna systems, insulators associated with overhead power lines and equipment are intended to separate differing potentials. The potential on either side of insulators should, in the main, remain constant and unaffected by the necessary support hardware. Failure to achieve this encourages any insulator leakage current, or any induced current, to flow in an uneven or intermittent manner. Intermittent current flow generates noise spikes which results in "illegal spark transmission" from "super elevated antenna systems".

In order to ensure a constant potential on either side of an insulator, and a constant and even leakage path, it is simply necessary to ensure that all mechanical couplings used in the support hardware have first class electrical bonding. And, rather like digital circuits, the "cold" end of an insulator should not be allowed to float or find its own potential — the "cold" ends of ALL equipment should have first class bonding to a first class ground.

The electromagnetic spectrum is not getting any bigger! Man's demand for more and more instant communications is placing ever increasing pressure on this limited resource. We cannot afford to waste this special, and most valuable, natural occurence by using devices which take up more space than necessary; or which generate unnecessary signals or noise within the finite electromagnetic spectrum. Radiocommunications authorities banned spark transmission many years ago . . . why then are power distribution authorities allowed to continue to transmit this outdated mode in an area reserved for radiocommunications.

The Australian Department of Communications states that interference from overhead power distribution systems is common throughout Australia. The Department goes on to outline that most PLI could be eliminated by better engineering design prior to the line being installed.

Having established where good communications engineering practice would eliminate most PLI — perhaps we should examine, in a little more detail, the problems associated with the poor power line engineering practices for lines and equipment operating at 66 kV and below. Lines and equipment above 66 kV can be a source of interference but because of the better design and heavier construction they are not a major problem.

Interference is most apparent during hot, dry and windy weather conditions. Insulator leakage current which is increased by fine airborn contaminates tries to flow to ground or other phases via the often dirty, loose and unbonded hardware. The spark/s which result, not only produces wide band interference noise signals (unlicensed) within the electromagnetic spectrum but also increases the contaminates around the sparking area, thereby producing an even bigger spark. Many of the old style insulators are hopelessly inadequate. Under certain weather conditions you could light a cigar off the continuous base flash-over.

Slack spans at dead-ends and Tee-offs are one of the most common problems — again, with a full and efficient communications style bonding system these situations would no longer be a major problem.

Wooden poles should not be used as part of the insulator system. Leakage current can cause burning or charring of the wood under the hardware. Good bonding of all "cold" hardware to ground would ensure that the pole does not try to carry leakage currents. Old wooden poles and heavy leakage currents can cause pole fires.

The International Electrotechnical Commission through its Special Committee on Radio Interference lays down general procedures for establishing the limits of the radio noise field from power lines and equipment together with typical values and methods of measurements in the frequency range 0.15 to 300 MHz. Site measurements and service experience have shown that levels of noise from power lines at frequencies above 300 MHz are so low that interference is unlikely to be caused to television reception. The value limits are calculated to provide a reasonable degree of protection to the reception of broadcasting at the edges of the recognised service areas of the appropriate

transmitters in the AM radio frequency bands, in the least favourable conditions likely to be generally encountered. The limits are intended to provide guidance at the planning stage of the line and standards against which the performance of the line may be checked after construction and during its useful life. Recommendations are made on the design, routing, construction and maintenance of lines and equipment to minimise interference. (CISPR 18-1-1982).

In Canada, the Department of Communications has proposed various amendments to the Radio Interference Regulations. Amendments outlined in DGTR-021-82 indicates the seriousness with which Canada regards the whole problem of interference from power distribution systems.

The proposed amendments state that a person who owns, is in possession of or controls a power system shall promptly locate and suppress any machinery, apparatus or equipment which, after investigations by a person appointed by the Minister, is shown to be the cause of radio noise within the power system. The maximum field intensity of radio noise that may be produced by a power system in fair weather varies from several hundred microvolts per metre in the 160 metre band to tens of microvolts in the 10 metre band for lines up to 220 kV. The measuring distance is 15 metres from the point immediately below the nearest line conductor or 15 metres from the property line of a substation. In the practical aspect Canada is conducting interference measurements in the vertical direction over power lines using EMI measurement instruments in helicopters.

Strong USA representation on the subcommittee preparing the CISPR manual on "Interference from overhead power lines and high voltage equipment" should result in the manual, particularly part 2, being accepted by the United States electric supply utilities AND by the FCC.

In conclusion, perhaps we should consider the early days of radio when the only limitations on its utilisation were imposed by the natural electromagnetic environment and the development of science and technology in the design and construction of radio equipment. A few working devices could be far apart in space and frequency and the problem of interference and spectrum protection in the contemporary meaning of the word did not exist. With technical progress the situation began to change, but nobody anticipated then, that a state would so quickly develop in which problems of sharing of the limited resources of the electromagnetic spectrum by many users (with the resulting electromagnetic environment pollution and interference problems) would become the key to further development of radiocommunications, and more broadly speaking to the development of any kind of information transmission using electromagnetic phenomena.

The electromagnetic spectrum is an indispensable resource in modern civilisation. It's intensive utilisation is a prerequisite for our existence and development, and a solution for EMC must be vigorously sought after.

The Australian Department of Communications is fighting a battle against incidental radiation from many sources with a shortage of staff, a lack of mandatory standards and regulations, and a lack of government legislation.

AR

CONTESTS

Reg Dwyer, VK1BR
FEDERAL CONTEST MANAGER
Box 236, Jamison, ACT 2614

CONTEST CALENDAR

OCTOBER

1-2	*VK/ZL Phone Contest*
8-9	*GARTG SSTV Test*
8-9	*VK/ZL CW*
8-9	*ARRL CW QSO Party*
9-10	*ARRL Phone QSO Party*
9	*RSGB 21/28 MHz Phone*
16	*RSGB 21/28 MHz CW*
15-16	*Jamboree on the Air*
22-23	*ARCI QRP QSO Party*
22-23	*YLRL Anniversary CW Party*
22-23	*CLARA AC/DC Test*
29-30	*CQ WW DX Phone Test*

NOVEMBER

5-6	*YLRL Anniversary Phone Party*
12-13	*DARC WAE RTTY Contest*
12	*ALARA Contest*
26-27	*CQ WW DX CW Test*

A letter received from Anne Hood of the MID LANARK ARS, Scotland brings to our notice, the Special Events Station of GB2MOD to be included in the annual festival of poetry, national songs and the Gaelic language. This festival will be held during the week 8-14 October 1983. Details appear in September AR, page 37.

COMMENTS ON THE CHAMPION OF CONTESTS

I would appreciate some general comment on the Champion of Contests awards.

The results below are included as some sort of encouragement for those who generally enter contests but not really on a regular basis and to show these entrants that a score can be attained that is in the winning circle so that future interest can be derived for this award.

The results for the contest have previously been taken section by section.

VK4XA's result would, in that case, be something like forty six points and not the thirty six published.

I must admit that the results taken as the high scorers of each section may better be compiled as the total points scored for the particular contest worked.

The results for VK3BQS were omitted from the list and should have read as follows:
VK2BQS RD=9, JM=8, VKNOV=7, VK/ZL=14 TOTAL=38

This score is a reputable one and should not have been omitted from the results. My sincere apologies to Jim.

Please comment on the method of scoring the winners.

1 Does the method of taking each section individually seriously detract from the other contestants?
or
2 Does the current method of scoring correctly ascertain the true winners and consistent high scorers of our contests?

Your opinion please.

CONTEST CHAMPION 1982/83 CONTEST

Contests chosen for the VK Contest Champion were:
John Moyle, VK/ZL, RD, VK Novice.
The points awarded are as follows:
1st = 10 points
2nd = 9 points
3rd = 8 points
etc thru to 10th position for 1 point.

An entrant must be included in three of the four contests. He/she may not score but must have entered.

To win the entrant must be a member of the WIA.

On the completion of all contests the highest points scorer wins the Contest Champion Trophy for one year.

The contests for the 1982 year have been completed and the available results are listed below. The results of the VK/ZL contest are not usually available until the June edition of AR. Therefore the trophy is awarded in the latter part of the year and held for the following year.

THE RESULTS FOR 1982

CALLSIGN	JM	VK/ZL	RD	VK NOV	TOTAL
5QX	*10*	*16*	*10*	*14*	*50*
3WP	*10*	—	*10*	*18*	*38*
4XA	—	*36*	*10*	—	*46*
3AEW	—	*8*	—	*10*	*18*
7RY	—	*9*	*7*	—	*16*
3ADW	*7*	—	*7*	—	*14*
6RZ	—	*9*	*3*	—	*12*
1LF	—	—	*3*	*4*	*7*
3BRM	—	*9*	*9*	—	*18*

AR

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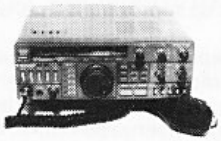

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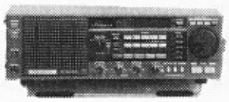

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HL-90U ... $369, HL-45U ... $219
ALINCO ELH-230D ... $99, ELH-265D 50 W .. $149
KEN ROTATORS, KR-400RC . $159, KR-600RC . $229
KR-2000RC ..... $439, KR-250 ..... $79
KR-500 ..... $169, KS-050 ..... $25

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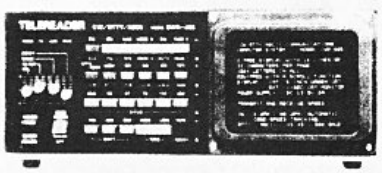

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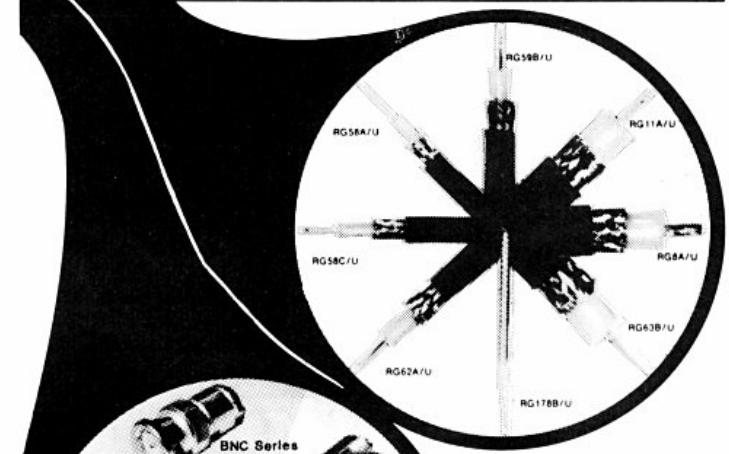
Coaxial Cables and Connectors



PROUDLY AUSTRALIAN

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FORWARD BIAS

VK1 DIVISION

John MacPhee, VK1NEN
36 Kavel Street, Torrens, ACT 2607

August was a very busy time in Australia's National Capital. VK1IT, the official callsign for International Technology House, was instigated and numerous amateurs took part in operating the fixed station. The equipment used was supplied by Kenwood and there were plenty of people wanting to get their hands on the latest equipment and experience some of the technological advances made in amateur gear.

IT House was viewed by the general public and it appears as though the venture was a great success. All the amateurs that helped in either manning the station or answering questions from the public, should give themselves a pat on the back for a job well done.

A full story on IT House will appear in November AR.

AOCP CLASSES

By now all those candidates who sat for the August Full Call exam should have their results and are probably using all the bands previously taboo to them. Congratulations to all the successful candidates. To those who didn't succeed this time, "Better luck next time".

There are a couple of people who deserve a mention for their efforts in helping others pass the exam. Firstly, the instructor, Gilbert Hughes. Gil with his faultless knowledge on the theory of radio and components was right on frequency whenever any problems arose. He soon solved the tricky ones and made the students job a lot easier. Thanks Gil.

Secondly, we had one of the best Morse code tutors, Finn Stevens. Finn gave two sessions of Morse every lecture night without fail for the entire course and was instrumental in giving everyone the confidence needed to sit the exam.

Thanks Finn for a job well done.

Due to postal problems this next article was too late for the September issue, so we will put it in this one.

THE DISTRICT RADIO INSPECTOR AND HIS DUTIES

We have in Canberra, very good relations with the DRI. Therefore we invited Mr Alan Jordan, DRI, to attend our August meeting to tell us exactly what the DRI and his office do. Alan was very thorough in his discription of his duties and answered many questions from the curious group. I am sure we all understand what the office does and that if you have any problems you can contact them for advice. Thanks Alan for an interesting talk.

MEETING AGENDA

24th October — Proposed Topic ATV.

Well that's it for now. Next month IT House.

See you soon!
73 John VK1NEN
PUBLICITY OFFICER AND EDITOR

AR

VK2 MINI BULLETIN

Jeff Pages, VK2BYY
VK2 MINI BULLETIN EDITOR
PO Box 1066, Parramatta, NSW 2150

COUNCIL REPORT

The August Council meeting was attended by Divisional Historian Jo Harris VK2KAA, who gave a report on her progress so far in assembling a history of the VK2 Division. Information is still required on early Divisional Presidents and Secretaries, and also on original and subsequent holders of two letter callsigns in this state.

Council resolved that Bankcard will be accepted by the NSW Division for books, equipment, *new* membership, social functions, etc, as well as by the VK2 QSL Bureau, Correspondence course, WICEN and the Education Service. It should be stressed that Bankcard cannot be accepted for membership renewals or other Federal items, and at this stage the VK2 Division is the only one to accept Bandcard.

Beacon Officer John Marshall VK2EGI is investigating the feasibility of establishing a 20 metre beacon as part of the international beacon project. Beacons operate on a time-share basis on 14.100 MHz.

The lease for the downstairs room at Amateur Radio House is currently being prepared for our Honorary Solicitor, and Council resolved that Stephen Pall VK2PS be authorised to make all the necessary arrangements for the leasing.

Council resolved that the 10th Conference of Clubs be a two day conference held at Amateur Radio House, with nearby accommodation being provided for country delegates. The 9th Conference of Clubs, which is being hosted by the Central Coast Amateur Radio Club, will take place on the 8th November at Gosford, and any WIA member may attend as a spectator.

For a trial period of six months, the Divisional Office will be opened on the first Saturday of the month between 11 am and 2 pm. Members are reminded that the office is open each Wednesday night between 7 pm and 9 pm, as well as each weekday between 11 am and 2 pm.

Applications from the Hornsby and District Amateur Radio Club for a continuous 80 metre Morse transmission, and from the Wedden Mountain Amateur Radio Group for a 2 metre repeater were approved for submission to the Department of Communications. The Wagga Amateur Radio Club's application for an ATV repeater was also approved, and will translate from ATV channel 2 in the 70 cm band onto the 50 cm band.

Council gratefully accepted the donation from Rialto International of a Columbus Gray-Line Radio Globe. This globe will be prominently displayed at Amateur Radio House.

AFFILIATED CLUBS

PARKES AND DISTRICT AMATEUR RADIO CLUB

308 Clarinda St, Parkes, NSW 2870.
Meetings: 2nd Tuesday at the Red Cross rooms.
Committee: President — Harry Tuntler VK2DWT, Secretary — Tom Darcy VK2DDD, Vice-President — D Cooper VK2DHR and T Reece VK2XAQ, Treasurer — B Cooper VK2DHO, Other Committee — Col Brown VK2EEE, Ron Swindley VK2DDQ, Walt Field VK2NNF, John Meagher VK2AMV.

TUMUT AND DISTRICT AMATEUR RADIO CLUB

93 Lockhart St, Adelong, NSW 2729.
Meetings: Each Wednesday at 7.30 pm at the Tumut High School.
Nets: Sunday mornings on approx 3.590 MHz from 8.15 to 9 am.
Classes: Slow Morse — Ross VK2PN, Theory — Vince VK2ALZ and Keith VK2DLZ.
President: R K Dodd VK2DLZ.
Secretary: A C Dean VK2POD.
Other Committee: R K Weeden, V Nugent, W Minogue, J Hargreaves, T Reeckmann, R Jones, W Robinson.

Information for inclusion in the December Mini Bulletin should reach the Divisional Officer by the 19th October.

Jeff VK2BYY

AR

STOLEN EQUIPMENT

An Icom IC4E, UHF hand held unit — serial number 1810340 — was stolen from the Eastern Communication Centre's stand during the WCY Expo '83 at Nunawading Civic Centre on Saturday 3rd September.

Anyone with any information about this unit is requested to contact their nearest Police Station or Keith Haslam VK3ACE.

VK3 WIA NOTES

Jim Linton, VK3PC
DIVISIONAL PRESIDENT AND
PUBLIC RELATIONS OFFICER
412 Brunswick Street, Fitzroy, Vic 3065

TELEVISION RADIO AND NEWSPAPERS

The month of September has seen our hobby getting publicity unprecedented in many years.

Your president and Kim Wilson VK3CYL had the 'honour' of being interviewed on ATV10's "Good Morning Melbourne" programme.

The main reason for the interview was to publicise the Eastern and Mountain Districts Radio Club's Communications Expo '83 and to generally explain what amateur radio is all about.

Time has not permitted the writing of an article about the TV appearance, but it's hoped something will be published next month.

WCY Activity Week sparked off public events around amateur radio in various parts of the state and some of these too have had media publicity.

Congratulations to the club and zone officials who got right behind the WCY theme and strived for a greater public awareness of our hobby.

A most welcome and valuable form of two-way communication which is to the benefit of the entire membership.

The council minutes are also posted for reading on the noticeboard at the Divisional Headquarters.

A LOOK AT WICEN IN VICTORIA

A submission running about forty pages long has been made by this Division to the Victorian Government Bushfire Review Committee.

One matter in the wake of Ash Wednesday that the committee is examining concerns communications — and of course this was a golden opportunity to put a comprehensive case for WICEN.

Authors of the submission were the Immediate Past President Alan Noble VK3BBM and WICEN Co-ordinator Peter Mitchell VK3ANX.

With limited time available these two dedicated people worked extremely hard — the result is a dynamic document.

Alan and Peter are WICEN Ash Wednesday veterans which enabled them to draw heavily on the experience of last February — and put together a highly professional submission.

They made it clear to divisional council recently that should the submission be "picked-up" by authorities there will be a lot of on-going work needed.

The submission is recommended reading for those keenly interested in the future of WICEN.

Council has obtained permission on a permanent basis for the use of the callsign block VK3WIB-WIZ for WICEN exercises, disaster and emergency situations.

DOC has given council control over the issuing and use of the callsigns and certain guidelines have to be met.

They can only be used with permission of either the president, vice-president or secretary, and details of their use have to be included in council minutes.

The callsigns will help readily identify WICEN in Victoria on the air, and when used for the first time ever on a temporary basis during Ash Wednesday improved net control considerably.

Photograph by Ken McLachlan

L to R: Roy Hampson, co-compere of "Good Morning Melbourne", Jim VK3PC and Kim VK3CYL.

BE MORE INFORMED, SUBSCRIBE TO COUNCIL MINUTES

The Divisional Council recently decided to make available to individual members upon request the minutes of its monthly meetings.

These minutes are ideal for those who want to learn more about what council is doing for the members.

Any member wanting a copy only has to pay for the postage — inquiries should be directed to the Divisional Secretary.

The minutes are routinely sent to each zone for information and in turn the zone committees are now forwarding their minutes to council.

HISTORY MATTERS — CAN YOU HELP?

The Divisional Council recently decided to "actively pursue historical matter and artifacts" and we are very fortunate to have John Adcock VK3ACA as Historical Officer.

He's a Life Member and former long-time member of council having only retired last term.

Our division, formed in 1911, has an interesting and colourful history that needs to be preserved for future generations.

If you are in possession of historical matter, let John know about it, or donate it to the Institute.

Your president is collecting photographs of all past presidents for an eventual display of portraits at the Divisional Headquarters.

I would like any leads on the 1911-13 president M A K Ryan and S F V Cole 1913-15.

Anyone who has a photograph of a past president, including past presidents themselves, please offer it for copying and possible use in the president's display.

BUILDING OPTIONS REVIEW COMMITTEE

The Victorian Division's AGM asked that the Divisional Council examine options open to it regarding members' funds and the Divisional Headquarters at Brunswick Street, Fitzroy.

A sub-committee has been formed and aims to complete its work within the term of the current council.

Before any decisions are taken a recommendation would be put to the next AGM so that members will have the ultimate decision. If you feel the Divisional Headquarters should be relocated and have some ideas or perhaps know of an ideal new home for the WIA, write to the Divisional Secretary.

VICTORIA TO CELEBRATE AR'S 50TH ANNIVERSARY

Unless this is the first page of the magazine you're reading, the fact that AR magazine is fifty years old this month would not have escaped your attention.

This magazine was born in the Victorian Division and it's fitting that a mini-reunion of those involved with it over the years be held this month.

The October general meeting of the Institute will see this division conferring Life Membership on AR's first editor, Harry Kinnear.

Some invitations have been extended to

those involved with the magazine, but an open invitation is extended to anyone who would like to attend this historic meeting.

GET THE CALLBOOK THROUGH YOUR DIVISION

The 1983/84 Australian Radio Amateur Callbook (see review elsewhere in this month's AR) is available through your division at a discount members' price.

Council has decided to make the callbook members' price this year $5 or $5.50 posted within Victoria.

This is a sizeable discount from the recommended retail price of $5.75 — but councillors considered the sale through the division of the callbook was a service to members.

Your division has many other books on sale at discount prices, if you're looking for a publication why not make inquiries at the Divisional Headquarters, the likelihood is that it's being sold by the WIA cheaper than regular retail outlets.

NOVICE THEORY WEEKEND AND CLASSES NEXT MONTH

A special Novice theory revision weekend is being held on the weekend of 5 and 6 November at the Wireless Institute Centre.

The weekend is ideal for those who consider themselves already well prepared for the DOC exam next month.

Bookings for the revision weekend are required. The fee is $25 with ample handout material supplied and a trial exam held under exam conditions.

The next weekly Novice theory and Morse code classes start on Tuesday, 15 November.

These will run for six months — how about you Associate members — make the move to get on air under your own call by joining the Institute's highly successful classes.

For those already with their callsign, keep these classes in mind should you know someone interested in getting into amateur radio.

SUNDAY BROADCAST REVIEW

Chairman of the Broadcast Committee, David Johnson VK3YWZ is looking at all aspects of the weekly Sunday broadcast.

He says there are some long-term and short-term changes planned for the broadcast, including the provision of news, its presentation, and the broadcast format.

The addition of a "DX News" segment has proved very popular and David is examining the present content of the broadcast to see if there's further room for improvement.

He says a major task will be updating the facilities of VK3BWI — including control equipment, recorders, and transmitters.

The Zones are being asked to comment on the propogation of the broadcast to their parts of the state to see if the frequencies and modes used presently are adequate.

The Divisional Council recognises that AR magazine and the broadcast are major sources of news for Institute members — and it intends to see that members are kept informed on its activities.

David Johnson, wearing his other hat of Council News-Co-ordinator, is also kept busy presenting regular reports on what the Council is doing to administer the Institute's affairs and protect the interests of members.

AWARDS — ONE BRAND NEW AND ONE NOT SO NEW

The Keith Roget National Parks Award has been revived and updated to reflect the growth in numbers of National Parks in Victoria.

To qualify for the award you need to work into and/or out of sixteen of the national parks — there's no time limit imposed.

If you previously qualified for the award a number of years ago, simply gain the necessary additional parks to make up sixteen.

Why not plan an activation of your nearest national park to help others qualify for the award — please publicise your intentions through the weekly VK3BWI broadcast.

Further details on the award can be obtained from the National Parks Award Manager, Gray Taylor VK3JQ QTHR.

While on the subject of awards, elsewhere in this magazine you'll see details of Bendigo's first ever award — called the Premier Town Award.

Midland Zone Committee members have put a lot of work into getting this award going, help them make it a huge success — particularly you who live in the prescribed Bendigo district.

DISPOSALS EQUIPMENT POLICY

Last year the division re-introduced a disposals equipment service and this has proved very successful.

The results to date are a credit to the disposals officer, Fred McConnell VK3BOU and those who have helped him collect, check and sell the various pieces of equipment.

One of the major items has been the model 100 Siemens teleprinters. The general practice has been to check these machines before selling them as "tested" and converted to the amateur speed of 45.45 Baud.

The teleprinters have proved very popular with metropolitan members, and any country member or zone committee wanting a good Siemens machine should contact the Wireless Institute Centre while stocks last.

Council has now adopted a policy to cover its disposals service which includes a limited form of guarantee on equipment sold as "modified and tested" or as "tested" — but found not to be working within one week of purchase.

This equipment can be returned to the rooms for checking, and if found faulty due to reasons other than mistreatment will be replaced or a refund given.

Any member interested can get a copy of the disposals equipment policy at the Wireless Institute Centre.

SOME SERVICES PROVIDED THROUGH VK3 DIVISION

* Free world-wide QSL bureau service.
* Monthly journal "AR" magazine.
* Disposals equipment suitable for hobby use.
* Melbourne office open five days a week manned by volunteers to handle book and disposals sales and membership inquiries.
* Library of reference books, magazines and publications.
* Photocopying facilities for published articles and circuit diagrams.
* Appropriate media cover for amateur radio.
* Weekly Sunday morning news broadcast of items interesting to amateurs and SWL's.
* Advice on radio mast approval procedures.
* AMSAT — communications satellites.
* Assistance in dealing with interference problems.
* Monthly WIA Melbourne meeting and regular zone meetings.
* Theory, Morse, revision, practical and special technique classes.
* Trial Novice and AOCP exam papers.
* Awards, contests and trophies.
* Intruder Watch Service protecting the amateur bands.
* Most repeaters have their licence, insurance, power, and site costs paid by the WIA.
* Co-ordination and fostering of emergency communication activity during natural disasters.
* Assistance to members in legal problems arising out of the pursuit of their hobby.
* Representation for radio amateurs at a local, national and international level.

AR

SPECIAL NOTE

Unfortunately this special statement was omitted from the article "Practical Digital Control Unit for the ICOM 720A" page 14, September issue.

** NB: Use of this capability must obviously be restricted to holders of licences appropriate to the frequencies chosen. Tech Ed.*

AR

VK4 WIA NOTES

Bud Pounsett, VK4QY
Box 638, GPO, Brisbane, Qld 4001

HELP HANDICAPPED ENTER LIFE PROJECT

A new radio club has been formed following the death of Toowoomba amateur, Anthony Burge, VK4BAC, who was a victim of muscular dystrophy. Tony was a very enthusiastic amateur and tried very hard to overcome his terrible handicap but his triumph over the disease was unfortunately short lived.

Now the Burge family have donated Tony's equipment to HHELP with the express wish of promoting the hobby of amateur radio among disabled persons. As a result, a club has been formed to be known as the VK4 Disabled Person's Radio Club with the callsign VK4BTB.

By the time these notes appear, dedication of the equipment and the official opening of VK4BTB will have taken place on Saturday, 27th of August at Toowoomba on the Darling Downs.

The Queensland Division of the Institute wish this new club every success and you may like to make a special effort to contact VK4BTB whenever you hear this station on the air.

SUNSHINE STATE JACK FILES MEMORIAL CONTEST, 1983

From the VK4 Contest Manager, Joe Ackermann, VK4AIX, here are the results of this year's contest. Included in the sixty two stations who participated, were nine VK2, seven VK3, one ZL and twenty eight novice callsigns. Some stations claimed points for contacts on the 30 metre band but these were disallowed.

DIVISION 1

Section (a) Tx all bands

VK4AJL	*927 Points*
VK4ABY	*508 Points*

Section (b) Tx HF only

VK4YX	*712 Points*
VK4VHU	*544 Points*
VK4NAS	*346 Points*
VK4KAG	*241 Points*
VK4AOE/P	*226 Points*
VK4XZ	*166 Points*

Section (c) VHF, UHF only

VK4XZ	*36 Points*

Section (d) Tx all bands — Club Stations

VK4WIR	*763 Points*

DIVISION 2

Section (a) Tx all bands

VK2BQS	*339 Points*

VK4ANU, check log only.

QUEENSLAND RAILWAYS INSTITUTE AMATEUR RADIO CLUB

This club now has its own station with the callsign, VK4BQR. Should you be an old railway man or even just interested in railways, you might like to talk "railways" on the QRI Club net each Wednesday evening at 0900 UTC on 3.580 MHz or thereabouts.

VK4 DIVISIONAL BROADCAST

If you are a Queenslander living in exile in some other (lesser?) state, you may like to keep up with happenings at home. Like all the other divisions, we have a Sunday morning broadcast which goes on the air at 2300 UTC (0900 EAST). This broadcast is heard on a number of frequencies in the HF bands: 3.580, 7.120, 14.342, 21.175 and 28.400 MHz. So that distant stations may find the best frequency, we transmit a tuning signal from 2255 UTC on each frequency. This is a voice announcement giving the callsign, VK4WIA and the list of frequencies.

You may not be interested in Queensland affairs but because the Federal news is always up at the beginning, you may like to have the opportunity of listening to that before you go off somewhere for the rest of the day.

We are pretty pleased with the way our news is presented and we do have a lot of listeners, judging by the number of stations calling back on the various frequencies at the end of the broadcast. The average is a total of about 100 stations each Sunday. Give us a call, the operators will be delighted to hear from you.

Bud VK4QY

AR

FIVE-EIGHTH WAVE

Jennifer Warrington VK5ANW
59 Albert Street, Clarence Gardens, SA 5039

Firstly, an apology from me. Due to a change in deadline dates, which I failed to note when they were published in AR, my copy for August failed to arrive in time, hence, no column in the August issue and news that was not exactly "hot off the press" in September.

MORE QSL CARDS?

Having spent the best part of a day writing out the QSL cards for contacts made at the GPO — all 300 odd, along with Secretary, Dave Clegg VK5AMK, one would have thought that that was enough for one year. But no, such is our dedication (or perhaps we're all masochists!) that when we were asked if we would like to have a stand at the Electronics Exhibition being held at Morphettville Racecourse from the 4th-6th November — we said, yes please! As it will be a weekend this time, there should be no shortage of volunteers, and as the main sponsor is the 'News' we *might* get some free publicity.

CONVENTION

At the time of writing, we are pleased to be getting a steady flow of replies and bookings for our Convention in April. Once we have some idea of the number of VK8 and country members who will be attending, we will have more idea of the number of places available for interested city members, other than club representatives.

DIVISIONAL PICNIC

The Divisional Picnic, will be held at Bridgewater Oval on Sunday, 20th November. Make a note in your diary or calender now, and make it a fun day for the whole family. For any new members who may not have been before, all you take is the family and your own lunches (if there is a fire ban that day, it will be a cold lunch instead of a barbecue). The WIA provides ice-creams and soft drinks, prizes for the numerous races and contests, and lollies for the children. Last year the ATV group members made several video tapes, so we were able to laugh at ourselves long after the event!

SPECIAL NOTE

Please note that although there are five Tuesdays in November, there will NOT be a Buy and Sell meeting on the fifth Tuesday. This is because the Christmas meeting will be held on the 6th December and that would have meant three Tuesdays in a row. Last year we felt that this accounted for the drop in numbers at the Christmas meeting. This year we have a very special guest speaker. Wally Watkins VK2DEW is returning to Adelaide for the first time in many years, and has timed his visit to coincide with our Christmas meeting. He will be telling us about his recent trip to China, complete with videos. Knowing Wally, I feel fairly certain that this will be a most entertaining evening.

AR

GRATEFUL THANKS BUT MORE HELP NEEDED!!

Alan Shawsmith, VK4SS wishes to thank all those who have responded to his request for historical information. So far, over fifty letters have been received. This is most gratifying and he would be happy to receive another fifty. Photographs of amateurs, old or recent, and events are badly needed.

AR

WA BULLETIN

RR ???

RR IS HERE

RR being a Radio Rally to be held at the Parkerville Childrens Home, Parkerville on Sunday the 20th November.

The Parkerville Childrens Home is no longer used as a home and has been booked specifically for the Rally. It has extensive grounds, bush walks, play facilities, BBQ area and unrestricted parking available, a large hall with 240V power and toilets.

Parkerville is an hours drive from Perth along the Great Eastern Highway and is convenient for metropolitan members and country members within a wide radius. There are shopping facilities for BBQ packs etc and a tavern is nearby.

The Rally will run from 10 AM to 4 PM with activities throughout the day. Overnight accommodation is available in rooms at the home and bookings must be made ASAP. Camping is permitted and it is intended that the Saturday evening foxhunt will terminate at Parkerville thus allowing a BBQ and overnight happening.

Talk-in stations will be manned from the site on VHF and HF — listen to the news for details.

The Rally is intended to be a family event and YL's and harmonics are particularly welcomed. We are trying to arrange visits by Mr Whippy and refreshment vans and the local store will be notified. Other possibilities being checked are pony rides, foxhunts, etc.

It is intended that the news broadcast will be made from the Rally and stations will be manned throughout the day. Other events will include a swap meet which will commence at 10.30 AM and all visitors are welcome to bring their junk etc for sale or swap.

The main hall will be used for the rally stations and displays including items from the Wireless Hill Museum. Normal WIA facilities will be available including membership queries and booksales.

Commercial houses have been invited and the feedback to date is that there will be a large display of retailers covering the field from radio to computers.

This is your Rally sponsored by your Institute and is a first in recent times. Depending on the support received is the future of further rallies which are planned to take place further afield. Therefore mark the date in your diary, brief your family and participate in the biggest rally held in WA. Country members are particularly welcomed and basic family accommodation can be arranged at the site.

AR

AMATEURS: CAN YOU MEET THE CHALLENGE!

Remember the 'good old days' of amateur radio? When an amateur built his own gear - and was **so** proud of it!

Sadly, those days passed! With incredible advances in technology, it became economically and technically impossible to compete with commercially built equipment.

Now home brewing is here again!

And what's more, with the all-new Dick Smith UHF Explorer, you'll end up with a transceiver less than the cost of a commercial unit - and not just as good, **it's better!**

YES! A completely up-to-the-minute design featuring phase-locked-loop frequency synthesis.

It's ready to go simplex as soon as you've finished it - or with the addition of our low-cost upgrade kit, you're able to use repeaters too! Designed in Australia — for Australian conditions, using readily available components - so you'll never have any worries about spares!

And just in case you have any problems building it, we'll even help you out with our 'Sorry Dick, it doesn't work' repair service.

You can't lose!

'HOME BREW' – the very latest technology . . . build yourself a UHF Transceiver

SPECIAL INTRODUCTORY OFFER

For radio clubs, etc– order five or more sets and get a $30 discount on each! That's right– until October 31 five or more sets will cost just $169.00 (you can pass the saving on to your members or keep it for the club coffers – a great way to raise money for your club!)

SPECIAL OFFER MUST END OCTOBER 31–if stock runs out all orders received before that date will qualify.

Exclusive to Dick Smith Electronics

Unit shown is fitted with optional upgrade kit

SPECIFICATIONS	
Frequency Coverage	438.025-439.000MHz in 25kHz steps
No. of Channels	40
Mode of Operation	FM
Supply	13.8v DC. Receiver 340mA with full audio output and all options. Transmitter 2A more (5 watt output)
Receiver	Dual Conversion Superhet
Sensitivity	0.4uV for 20dB quieting
Selectivity	+/–7.5kHz - 6dB, +/–15kHz - 60dB
Adj. Chan. Reject	Better than 80dB
Transmitter	
Power Output	5W (typical)
Deviation	+/–5kHz
Spurious Emissions	Better than -60dB

GREAT VALUE!

DICK SMITH EXPLORER UHF TRANSCEIVER

Cat K-6300 ***from only*** ***$169****

*for five or more until October 31

Single price $199

OPTIONS AVAILABLE:

Upgrade Kit (Cat K-6302)
(Repeater kit, S meter & kit, additional xtal filter & new front panel) ..... **ONLY $24.50**

Antenna Kit (Cat D-4014)
¼ wave stainless steel whip, co-axial fed UHF antenna base, PL-259 plug, 3.5m low loss UHF co-ax, gutter grip mount and cutting instructions ..... **ONLY $24.50**

DICK SMITH Electronics

There's a store near you. (Stocks may be limited in some stores).

DSE A571M PA

LETTERS TO THE EDITOR

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publisher.

CENTENARY COMMUNICATIONS HOOK UP

The official Western Australian Boys' Brigade call sign is VK6ABB (Australian Boys' Brigade).

We would like to invite all members to join with us in the communications hook-up, both local, inter-state and international.

Information for the long weekend camp, 1, 2 and 3 October, is as follows:–

There will be approximately 350 boys attending (No 1 Group 8 – 12 years) and (No 2 Group 14 – 18 years) at the Sorrento Youth Camp located on the coast 20 kilometres north of Perth.

The main BB Amateur Radio Station will be set up at the camp for early morning and late afternoon transmissions. There will also be a mobile station operating from the Hale School Sports Grounds located 11 kilometres down the coast from Sorrento. This station will be available for the boys to visit as we link up with other local and Eastern States companies, hoping for DX as well.

Yours sincerely

MALCOLM K JOHNSON VK6NMJ,
Communications Officer,
The Boys' Brigade,
Box K 842,
Perth. 6001. **AR**

MAKING CW EASIER

About sixty five years ago, I began a long time job — in all nearly fifty one years — with the old PMG Department.

Among other things, I got an early introduction into telegraphy; being taught in a Departmental class by experienced operators of the "old school" and some very competent men they were.

It is worth noting that there are still a few PMG trained operators still in amateur circulation.

At the outset, we were instructed to be seated comfortably, so that the sending hand and arm were neither too low nor too high.

The bar of the key, the hand, wrist and forearm were to be in a straight line and all action was wrist action. The fingers were more of a spring, not the actual sending action.

Adjustment of the key was to be such that the gap between the front contacts was not large (mine, at the present time is one and a half thousandths of an inch measured with a feeler gauge) and the spring had just enough tension to lift the bar when pressure was released.

At least two fingers had to be on top of the knob and the thumb at the side.

Accuracy was considered the essential, because the speed increase would come with practice; bearing in mind that we would be handling traffic paid for by the senders.

We qualified at a first test of twenty words per minute.

Another "aid" point was, if you normally wrote in a large hand and could not keep up then write a little smaller. This was a factor to us who had to stop writing to dip our steel pens into the inkwell. All these little bits counted as it was a long time before "biros" were invented.

This is being written because, while listening on air a few nights ago I heard advice being given to "have a good gap on your key contacts and heavy spring tension".

I consider this quite wrong, as it requires additional wrist pressure and movement which could likely result in ultimate failure of ability to send properly later on. It was quite contrary to what I was taught.

I soon found trouble when it came to receiving, as I could not write fast enough. This seemed a common stumbling block in the classes because we did not normally write much faster than 12 WPM (when we were able to sort out the characters at that speed). Don't panic if you find the sending on air is too fast for you. Ask the other chap to slow down a bit. Remember, your licence does not require you to read at 25 WPM. You will acquire this sort of competence with continued practice.

In view of my lifetime association with telegraphy and the fact that, for something like sixteen years, I provided a slow Morse session, on a "once a week" basis, from the various points where I was stationed, I feel that I am well able to comment on this aspect of our hobby.

I hope this might help somebody who is wondering why he is not making as much headway as he first expected. Don't get upset about it and remember that all the operators had to go through the stage where you are finding difficulty.

If I can be of any help, I will be only too pleased to do so.

Tom Laidler, VK5TL
18 Albion Avenue, Glandore 5037
AR

SEANET CONVENTION TRAVEL GROUP

A group tour is being organised to Singapore for Australian Amateurs to attend the SEAnet Convention to be held from the 18th to 20th November at the Hotel Equatorial. The tour package will include air fares, the convention programme, additional tours, sightseeing, and shopping. The tour will only get off the ground if sufficient interest is shown by enough VKs, so come and join the group and save money. For further details contact *John, VK3IH* QTHR. Tel (03) 531 8601 or 583 8355.

Yours faithfully
John Sweeney, VK3IH, VS6GG, HS1AML
99 Warrigal Road, Mentone, Vic
AR

JAMBOREE ON THE MOUNTAIN

The 1983 Jamboree of the Air is almost with us again and preparations have begun for a repeat of last years very successful camp with the Hellyer Venturer Scouts of Burnie, Tasmania. For the group of 20 venturers, jamboree camp in a scout hut on the side of Cradle Mountain in the Tasmanian highlands at an elevation of about 4500 feet will be one of the coldest and most unusually located of any Australian station.

The station was operated last year for the first time after deciding that a more unique and challenging location was required than the usual centrally heated school or home.

The station location required a forty minute walk from the car park up the mountain in darkness on the Friday night preceding the jamboree. Weather conditions are known to change rapidly in the highland region and the party last year was met with snow and wind on the trek.

Saturday morning saw a group of scouts returning to the car park in four inches of snow to carry two heavy duty batteries and a hundred pound gas bottle amongst other requirements up the mountain. It was during this time that the station was assembled and antennas erected and checked.

The station consisted of a Yaesu FT 707 system running into a two element beam on 15 m and dipoles on both 40 and 80 metres. A Yaesu FT 290R and ⅝th whip was used on 2 metres and provided our chief link with local stations through repeater 8 at Launceston.

For the following 24 hour period the worth of the exercise was well proven and contacts were made with such stations as WB7VIW maritime mobile on the Pacific Princess, well known on TV as the "Love Boat". K6AV maritime mobile on the Oriana and VK9ZA on Willis Island etc.

Jamboree 1983 will undoubtably present its own special challenges, a large venturer group will be in attendance, the antenna system shall be upgraded concentrating on the 20 m band, special QSL cards have been printed and last years operator call has been replaced with a personalised scout call VK7SCM (Scouts Cradle Mountain).

The station will again be manned for the 24 hour period using the 2, 15, 20, 40 and 80 metre bands: so if you hear VK7SCM operating please give a call and join in the Jamboree experience.

G Greene, VK7GG
58 Bird Street, Burnie 7320
AR

REFERENCE DIRECTORY

In the August copy of AR, Letter to the Editor section "Help Needed", John Brennan VK4SZ suggested a reference directory of amateur radio equipment. For some time now I've been contemplating that idea — to put together such a reference directory. The idea seemed sound to me to do just that, but would it appeal to others. John's letter is enough for me to consider it may be feasible.

Through any response by other readers I may gauge the interest to continue onwards in a more positive and serious manner. Any criticism, personal views, creative ideas etc would be most welcomed at my address. Any takers? Initial ideas of my own are:-

1 Loose leaf style A4 pages as it would allow for updates easily
2 Divide into sections eg receivers, transmitters, transceivers, test equipment etc
3 List each equipment with reasonably detailed specifications
4 Include items of ancillary equipment eg VFOs, monitor scopes, filters, aerial tuners
5 Detailed index or cross index

It should be stressed that these are my ideas only and its really up to you, the reader, to put your thoughts down and advise me. In fact the whole idea of a directory may be pointless. What say ye?

Yours sincerely
Jeff Archie, VK3VPU
PO Box 19, Colac, Vic 3250

A directory of this type would be a sound idea if enough were interested. What do others think of John and Jeff's idea — Ed.

WHO AM I??

I wish to draw attention to a situation which is slightly embarrassing to me and possibly one hundred or so other women.

I am the mother of a lad, VK2EFM, and he is fifteen years old. *"So what?"* you are thinking. Now let me ask a question. *What does that make me?* Apart

from being his long-suffering mother, I'm not his XYL, or YL.

I'm in constant demand in the shack, responding to calls of *"Hey Mum, this guy is a ——— (callsign), can you find out what country that is, quick! It's in the book."* or *"Where's his QTH on the map?"* or *"What's this letter on the QSL card?"*.

The only problem I couldn't solve was the Arabic or Russian letter on the QSL card. That makes me a fairly accomplished SOMETHING, but I'm not sure what it is.

At fifteen years, VK2EFM doesn't have a driver's licence, so it is often my task to take him to field days, etc, and I enjoy doing it. But it is very embarrassing when I enter the competitions that are provided for the family accompanying the amateur. If I should win one, what title (not XYL, became I'm not his wife) should I claim.

As you might guess, I'm very proud of my young OM and I wish to acquire a title that indicates that I am his OLD LADY. Please regard this as a serious letter. I don't know what I am (amateur wise). The number of mothers in my position is increasing. Seriously, what about OL?

Yours sincerely
(Mrs) Gloria Savins
21 Yarravel Street
Kempsey, NSW 2440
AR

RFI, DOC, EMC, A HAPPY ENDING!

Here is a little feedback about the outcome of a situation which may not be uncommon.

Since I dismantled a trapped vertical antenna last November and erected a tri-band yagi, the DOC has received from several of my neighbours complaints about radio frequency interference. The Department responded by sending officers to check my station and to investigate the complaints with the neighbours. The problems have been solved, the situation is stable and the yagi is just fine.

The purpose of my note is to tell, firstly, how helpful, courteous and effective the officers from the DOC were, on their several visits, both with me and with the neighbours. If my experience is typical, and I have no reason to believe that it is not, then members of the Amateur Radio Service should have no fears in regard to interference investigations by officers of the Department. Secondly, I want to say 'Thanks' to the EMC Advisory Service, for a prompt response to my call, with useful advice and printed material.

A happy ending? I hope so — but what was that I heard about video recorders?

Yours faithfully
Fred Naylor, VK3AQN
5 Maculosa Court
Endeavour Hills, Vic 3802
AR

WHO IS THE REAL VK2EP?

Although a newcomer to Amateur Radio, I first sent "CW" more than fifty five years ago.

I spent five and a half years during World War Two as a Wireless Telegraphist, RAAF. In 1978 I obtained my Novice studying at the WIA in Melbourne. It was very difficult for me but I made it with the help of good instructors.

In 1980 I made the full call with much more "sweat and tears".

Now, to my horror, I am receiving stacks of QSL cards from all over Europe including the usual requests from USSR listeners for QSL cards. Giving times, dates, etc of SSB! Contacts with most of Europe the signal strength is nearly always RST 5 x 9 + 20 dB.

I note that the VK2EP never has a name or QTH. I know immediately he is a "pirate" as I work "CW" only.

I also have worked the world but only with "CW", QRP with a G5RV antenna. I make an appeal to anyone hearing VK2EP on phone to try to find his QTH, name etc.

He certainly has better equipment than I have.

Any assistance in locating this person would be appreciated.

73 de
Harry Alderson, VK2EP
PO Box 1084,
Coff's Harbour,
NSW 2450.
AR

NOVICE OPERATORS

I have discussed the proposition with many on-air acquaintances that Novice operators who have passed Morse code at A0CP level should be granted the privilege of working on that portion of the 7 MHz band which is allocated to American Novices. Such operation could be restricted to CW only and should give a boost to those Novices who are well ahead in handling this mode.

I submit there are quite valid grounds for such a development.

1 The 7 MHz band has been extended.
2 Many Novice operators are VERY competent CW operators.
3 There is quite a clear distinction between communicators and technicians.
4 Australian Novices would be in a better position to make overseas contacts with American Novices if their allocations overlapped.
5 A 7 MHz allocation to Novices would stimulate interest in Morse code as a favoured transmitting mode.
6 There would be no need to issue new callsigns. The addition of an oblique stroke and the letter "C" should be adquate.
7 Novices have proved to be a very worthwhile addition to the Amateur Service. The Novice movement has shown responsibility and has established itself in a very favourable light. It is REASONABLE to expect concessions for our responsible Novice colleagues.

Yours faithfully
Rex Black, VK2YA
562 Kooringal Road, Wagga Wagga, 2650

Editors Note: This letter has been shortened.

AR

BADGES

Surprise! surprise! has it happened? The diamond logo has been deleted from the editorial and front pages of Amateur Radio.

Is it too much to hope for, will it be deleted from all WIA publications and material in the future? It should never have been adopted at all.

Look at the pot-pourri of badges advertised on page 38, is this what we have come to? Then on page 42 we have the Western District Award of the Victorian Division, featuring the diamond badge.

This division also features a different form of our original badge, much neater in appearance, but not correct. Of the two I prefer the Victorian version because of the neater and clearer outline.

This badge is featured in an article in Amateur Radio Action, Vol 6, Issue 3, page 16. Alongside the New Zealand diamond. I have warned about this in my past correspondence, clean up the mess, we need only one badge of standard design — the old design.

Yours sincerely
Leslie Arnold, VK7AM
114 Frederick Street, Launceston, 7250
AR

WORLD COMMUNICATIONS YEAR

At their August meeting, about fifty members of the Probus Club of Ku-ring-gai at Pymble heard brief addresses by Norman VK2DKH and Frank VK2KGI about the purpose of WCY and the activities of amateur radio. Amateur radio communications were demonstrated with HF and VHF equipment from these two stations using HF antennas hung on bamboo rods and convenient trees.

Yours sincerely,

Frank Aston, VK2KGI
3 Churchill Avenue,
Wahroonga, 2076.
AR

A NEW GAME, "WHAT'S MY CALLSIGN?"

When Scott Cundiff, N5ASD arrived in Australia recently on holiday one of the first orders of business was to visit the Townsville branch of the Australian Department of Communications to secure a "VK" amateur call. Minutes after walking into the proper office and $18 poorer he emerged as VK4BSD and was soon enjoying operation "down under" on the bands.

However, trouble was on the horizon. As Scott was working on two metres in Brisbane a unique contact took place. It began like this: "VK4BSD this is VK4BSD, that's my call, mate!" Somehow this did not seem like the ideal situation so a phone call was made to the Brisbane office of the Department of Communication. They promised to check into the problem and call back.

While awaiting the return call Scott began to tune around the ten metre band and almost immediately heard a friend in San Antonio, Texas calling "CQ". To keep things from getting any more confused (at least that was the thought of the moment) Scott used the call of John White, VK4AAJ who was in the room at the time. The fellow in San Antonio carefully recognised the call of VK4AAJ, realised that it was in reality N5ASD, who was actually at that moment sharing the call VK4BSD. However, during the QSO the phone rang. It was the good people at the Department of Communication with another callsign! So during that QSO VK4AAJ who was actually N5ASD who also had the call VK4BSD finished up as VK4ASY. All in one conversation . . . and everything was legal folks!

Contributed by John White, VK4AAJ

AR

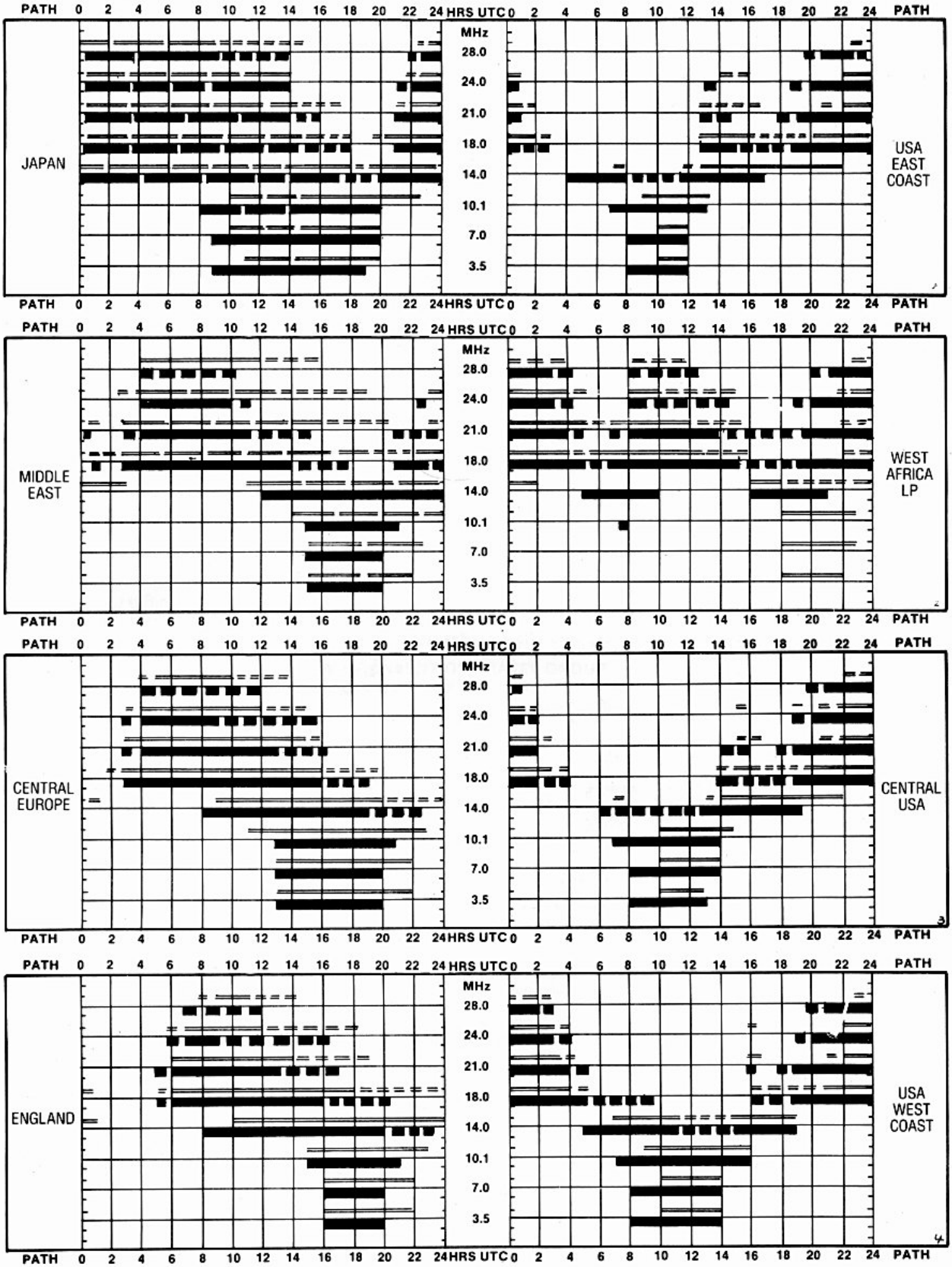
SEPTEMBER'S BEST PHOTOGRAPHS

The judges at Quadricolor Industries and Waverley Offset Printing selected the view from 9N1MM's QTH, page 36 and the judges at AGFA-GEVAERT selected the cubs on page 25.

These photographs will now be considered for the AGFA camera prize at the end of the competition in June 1984.

IONOSPHERIC PREDICTIONS

Len Poynter VK3BYE

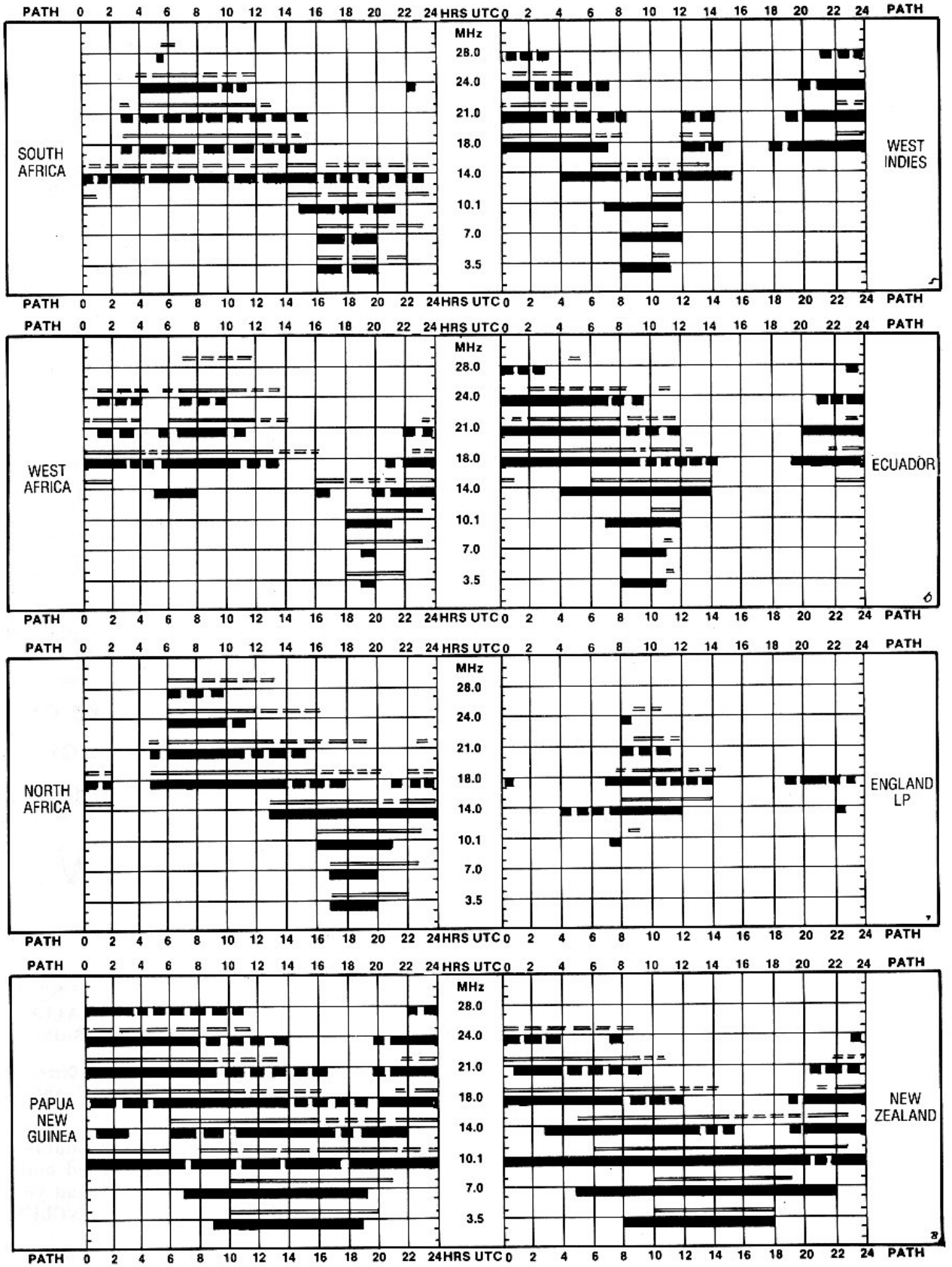


LEGEND

From East Australia

From West Australia

Better than 50% of the month, but not every day



Predictions courtesy Department of Science and Environment IPS Sydney. All times in UTC.

Less than 50% of the month

PATHS — Unless otherwise indicated (ie LP = Long Path) all paths are Short Path.

Obituaries

VIC BROWN VK4BJ

Vic Brown VK4BJ became a silent key, on the 27th July 1983 at the age of 76 years. He obtained his ticket during 1927, and up to a few years ago, he remained active.

I first met Vic, in 1928, at ARAMAC in Central Queensland, where he was employed as a wardsman at the local hospital.

Sometime in 1929, he gave that job away, and with his brother, started a bakery business. At that time, Don Bradman was in his hey-day, and Vic, being a very enthusiastic radio amateur, and also owning a "warm" bakehouse, was very popular with the local cricket fans, during the test series.

He was a very cheerful chap, and was always there with a helping hand when needed. He pioneered 6 metres in Bundaberg during the late '40s.

To his wife Ethel, two sons, his sister Gladys and all his many friends, we offer our sympathies and condolences. Vic will truly be remembered.

Claud Singleton, VK4UX

AR

ANDREW HAROLD GRAY VK2APV

The sudden death of Harold Gray on 14th June came as a great shock to his many and close friends. Harold would be best known as Senior Instructor, Marconi School of Wireless from 1949 to his retirement in 1968.

In his early life he was a cabinet maker by trade, but was attracted to "Radio" and the Marconi School, and on qualifying joined the AWA Marine Service in the early 1920's. During the depression years he saw service in New Guinea, subsequently joining the Marconi School in 1938.

For many years his QTH was Strathfield, operating purely on CW. In latter years he moved to Umina (Gosford District) and continued his DX contacts.

Harold is survived by his wife, Marjorie, to whom we offer our sincere condolences.

Cecil Bardwell, VK2IR

AR

WILLIAM SHANNON OTTY VK2ZL

It was with great sorrow that we learned on Monday evening, 8th August, 1983 of the death earlier that day of our old and respected friend, Bill VK2ZL.

Bill had been in indifferent health for some time and had been in and out of hospital but it didn't seem to most of us that long since we had heard his cheery booming voice on the air. It was quite a while of course as Bill had been in the "Riverview" nursing home in Cooranbong and we only managed to see him from time to time. For those of us who remember happier days, it came as a sadness to pass the brick house on the corner of Otty's Lane at night and see no light in the shack, for Bill was a very active amateur and experimenter and he loved his shack, and his trains and his billiards table.

Old timers got to know Bill well in the late 50s when he really became interested in amateur radio again after a lapse of many years during which time he was fully engaged with his brother Norman in running the family business making, among other things the "WILNOR" brand radio receivers. In his early days, business came first and his only opportunity to get on the air came when he broadcast on the 240 metre band every Sunday morning to, who can tell how many, listeners in the Newcastle area. His session, "The Wonderful World of Wireless" nearly always featured a favourite 78 record, "The Electric Girl" and old timers, amateurs and just ordinary listeners looked forward to tuning round on Sundays to hear this and the other selections that he played. It was from this beginning and his displays of some of the 'wonders' of wireless from his home at Killingworth that an attraction to visit this master of the new art was roused in many a young lad around the coalfields. They walked or rode their bicycles tens of miles to see and learn about the new mysteries. And Bill showed them all he knew which in those days was everything that was to be known about the hobby and skill of radio. It was at this time that the real old timers, the original two letter calls took his example and got the licence themselves. Bill had been licensed in England as ODX before his arrival in Australia in 1912 and his callsign 2ZL was issued to him shortly after he and his family settled at Killingworth. As the years went on he opened a shop in Wallsend and the name Otty became a family word for the miners and other residents of the coalfields and lakeside.

There are two things that Bill never changed — his callsign, which he held for 71 continuous years and his Geordie accent. Those of us who remember this fine old gentleman personally recall his kind and generous nature, his north country wit and determination and his frequent call, "Why don't ya get on th' air". There are so many things that could be said but most will just have to be remembered.

He had a quiet funeral attended by his immediate family and many of his amateur friends who formed a guard of honour outside the Uniting Church in Toronto on 10th August. So rests a great man, this contemporary of Marconi, who taught a good many of us all we wanted to know about our great hobby.

VALE BILL, VK2ZL, aged 90 years.

AR

Silent Keys

It is with deep regret we record the passing of —

MR H A BEHENNA	VK5BB
MR G A W WOOD	VK7GW

JOHN FERGUSON PICKLES VK4FP

The many friends of John will be saddened to learn of his sudden passing on Saturday the 9th of July.

John was born in New Zealand and after spending five years in the United States completing his Chiropractic degree, came to Brisbane in the early 30s. He enlisted in the RAAF at the outbreak of World War 2 and spent five years in the radio section. On demobilisation, he started a very successful Chiropractic practice in Brisbane. He obtained his amateur call in the late 40s and was very active in WIA affairs being the Honorary Secretary and also President in the early 50s. He was one of the group instrumental in the birth of the Queensland Divisional monthly newsletter, QTC, cutting the stencils and printing it in the big shack at the Clayfield QTH, which was the meeting place of many convivial gatherings over the years.

Contestants in the monthly Friday night 2 metre transmitter hunts would usually find his low flying Jaguar at the site when they got there with John smoking his pipe waiting for them.

He became interested in SSB very early on, building his own equipment before commercial supplies became available — lawn bowls and go-cart racing were other interests and here again he gave time to help on committees.

His loss will be mourned by many, and to his XYL Bett we offer our sincerest sympathy.

Jack, VK4JO

AR

DEADLINE

All copy for December AR must REACH PO Box 300, Caulfield South, 3162 no later than 25th October. Also please note the early deadline for January 1984 is the 18th November.

HAMADS

PLEASE NOTE: *If you are advertising items FOR SALE and WANTED please write on separate sheets, including ALL details, eg Name, Address, on both. Please write copy for your Hamad as clearly as possible, preferably typed.*

*** Please insert STD code with phone numbers when you advertise.**

- Eight lines free to all WIA members. $9 per 10 words minimum for non-members.
- Copy in typescript please or in block letters double spaced to PO Box 300, Caulfield South 3162.
- Repeats may be charged at full rates.
- QTHR means address is correct as set out in the WIA current Call Book.

Ordinary Hamads submitted from members who are deemed to be in the general electronics retail and wholesale distributive trades should be certified as referring only to private articles not being resold for merchandising purposes.

TRADE HAMADS

Conditions for commercial advertising are as follows: The rate is $15 for four lines, plus $2 per line (or part thereof) minimum charge $15 pre-payable. Copy is required by the deadline as stated below indexes on page 1.

AMIDON FERROMAGNETIC CORES: Large range for all receiver and transmitter applications. For data and price list send 105 x 220 SASE TO: RJ & US IMPORTS, Box 157, Mortdale, NSW 2223. (No enquiries at office: 11 Macken Street, Oakley, 2223). PLEASE NOTE: Business closed during October.

CB RADIOS $69: Walkie talkies, short wave radios, military, outback, business, amateur, marine, repairs, RTTY Siemens 100 A printer $120; base mic $45; ultrasonic alarm $35; all ham bands on a single 6 ft whip, 1.8 to 30 MHz, for base or mobile $300; aerials, installation, demonstrations, 40 Ch CB conversions, accessories, new rigs weekly. BRIDGE DISPOSALS, 12 Old Town Plaza, opp Bankstown Railway Station, NSW. Mail order service and all enquiries to 2 Griffith Avenue, Roseville, 2069, or phone Sam VK2BVS, 7 pm to 9 pm only on (02) 407 1066.

NOVELTY WALL PLAQUE/ASH TRAY. Special design for Australian radio amateurs individually personalised with your callsign (refer AR Showcase, May 1982). Fully glazed with high quality deep golden brown finish, also available with gold etching. An ideal gift to an amateur friend or just something different for the shack or lounge room. Enquiries to PAM SAXON, VK3NSB, 77 Edithvale Road, Edithvale, Vic 3196. Phone: (03) 772 1975. (Wholly made in Australia).

QSL CARDS — Printed to your own individual requirements. Single or double sided on a wide variety of plain or gloss coloured card. For quotations, contact John VK3ZIK. Ph: (03) 337 7518 AH.

SYNCHRONOUS PACKET RADIO the software approach volume I by Robert Richardson. 220 Pages. $28.00 + P&P $3.00. Northern Digital, PO Box 333, Charlestown 2290. Ph: (049) 43 8981.

FREE — VIC

AVAILABLE TO GENUINE COLLECTOR: WWII vintage RAAF radio Tx, type AT-21 comp with power supply and cables. If no takers it will be stripped for parts. VK3XU QTHR. Ph: (03) 725 0824.

WANTED — NSW

ATU — AT200 or AT180. Pay $150 plus post. Also DG-5 $130 plus post. Harry VK2EP QTHR. Ph: (066) 54 1536. Reverse charge.

C11/R210 txcvr system. Preferably complete but incomplete considered. John VK2ZJF. Ph: (02) 969 4539.

CIRCUIT DIAGRAMS for the following rigs. Spartan Courier SSB, Midland International Model 13-882C. Will pay for copies. Bob VK2VMX QTHR. Ph: (063) 51 4217.

TRANSMIT & RECEIVE CAVITIES (or diplexer) to suit 430 MHz repeater. Please write to Taree Amateur Radio Club, Box 712, Taree, 2430.

WANTED — VIC

ARMY RADIO EQUIPMENT TO RESTORE. WWII wireless van, No 11, 19, 22 type 3 MkII or similar. Also ATUs, genemotors control gear, amps, whips. Genuine project to restore Chev "blitz" SWB wireless van to fully operative condition. VK3/4CDX, 8 Bristow Drive, Forest Hill, 3131. Ph: (03) 877 1135.

CIRCUIT & any info on Philips TA-101 signal generator. Ken VK3ZFI QTHR or Ph: (03) 580 5347.

CIRCUIT & /or operating handbook for Marina model 150 marine AM txcvr manuf Ferris Industries. Will pay for photocopying and postal charges. Ken VK3KGX, Box 98A, Melbourne. Ph: (03) 527 9029.

WANTED — QLD

FLYING DOCTOR PEDAL RADIO equipment. Any condition for restoration. Would appreciate any information at all that could head me in the right direction to locate equipment. VK3/4CDX, 8 Bristow Drive, Forest Hill, 3131. Ph: (03) 877 1135.

KENWOOD VFO 520: external VFO DG5 digi freq disp. SP520 ext speaker to complete 520 station. John VK4NIE QTHR. Ph: Muttaburra 10 or 17 AH.

LINEAR AMP. Heathkit HA-14 or similar. Prefer without power supply. Any condition or linear using 811As. Also need 8874 or 8873. W Ryan, 6 Olive Court, Nambour, 4560.

WANTED — WA

YAESU FT7 HF mobile txcvr or similar mobile unit. Bill VK6LT QTHR or Ph: (09) 457 1080.

Buying or selling Gear
Use HAMADS first

FOR SALE — ACT

COLLINS 75S-3C rx $950. 30L-1 linear $950 or offers. These classics have no traffic lights — they just work. George VK1GB. Ph: (062) 54 1985 or 47 3296.

WIRELESS SET No 19 MkII txcvr, C/W supply unit, 2-8 MHz plus UHF, $10 ONO. Crammond "CTR 12" marine txcvr. 4.095 + 4.620 MHz xtals fitted. Inc BC band rx, circuit diag supplied, $10 ONO. 10/100 kHz xtal marker generator incl mains power supply and circuit diag, $10 ONO. VK1ZMJ. Ph: (062) 86 4707 AH.

XITEX SCT-100 RTTY COMPUTER plus keyboard and st-6 demod. 45/75 Baud 110/300 ASCII — power supplies built in — manual — $300 ONO. Theo VK1KV QTHR. Ph: (062) 71 6266 BH or (062) 88 1767 AH.

FOR SALE — NSW

ATLAS 215X complete with whips 80, 40 & 20. 2 cradles, 2 aerial matching transformers & car cables in exc order plus 12 V 40 W AC power supply. $400 ONO. CT70 port freq counter to 550 MHz. 5" x 5" x 1½" power 4 "AA" nicads plus AC trickle charger. Near new. Cost $199 sell $140. Auto keyer (Dick Smith) ex order + or — keying $45. University VAC voltmeter. Old but OK $20. Bruce VK2BEB QTHR. Ph: (044) 72 4285.

BEAM for 6 m 5 el. Brand new in box $75 ONO. Ph: (02) 569 5639.

FT208R YAESU 2 m. FM hand held txcvr in orig box with h'book & circuit. LCD display, 10 mems. Scanning 5 or 10 kHz. Keyboard entry, from 143.500 to 148.495 MHz. 2.5 W $295. Bob VK2JZ QTHR. Ph: (02) 44 7701.

ICOM IC-701 HF txcvr with power supply and desk mic, 10-160 m, dual digi VFO, speech processor. Ex cond $550 ONO. Mike VK2BMR QTHR. Ph: (02) 639 8643.

KENWOOD TRANSVERTER for 6 m. Model TV-506, 50-54 MHz. VG cond. All leads and plugs with English manual. Suit TS-520, TS-820 or TS-830S with mod manual supplied $160. VK2AKU QTHR. Ph: (067) 92 1606.

KENWOOD TS-120V with workshop manual. Tokyo Hi-lab ant tuner, MC-50 mic. All for $500. VK2AZT. Ph: (069) 42 1392. Offers considered.

KENWOOD TS-520. AC or DC operation. Orig condition. H'book. No mods. CW filter $410. ICOM IC-502A 52 MHz txcvr. As new h'book. $120. VK2HZ QTHR. Ph: (047) 51 1724.

KENWOOD TS-900 HF txcvr, C/W h'book, mic exc cond, Oskerblock SWR200 SWR meter. Rig $300. SWR $45. John VK2ANX QTHR. Ph: (02) 638 4191.

MAST. Triangular crank-up 17 m with all guys in good cond. Buyer to take away $300. VK2BKW QTHR or Ph: 636 5101.

PHILIPS FM-321 70 cm txcvr, 40 ch FM. Good rig, no bugs, mic, manual, small vert ant $220. Max VK2GE. Ph: (043) 92 4900.

FOR SALE — VIC

AZDEN PCS 3000. 142-150 MHz, 5/25 W, band and mem scan, auto offset or simplex, remote control mic etc. 2 x 5 el yagis & 21 m RG8 coax inc $285. Andy VK3UJ QTHR. Ph: (03) 874 5632.

BEAMS — all W Wulf 6 el 6 m yagi, still in packing. 2 x 9 el 2 m yagis, 10/15 m duobander yagi, 3 el 20 monoband yagi. All as new. URGENT SALE. Steve VK3DQL. Ph. (050) 37 2391.

CHIRNSIDE CE 5 SS multiband vert ant, as new $55. VK3KK QTHR. Ph: (03) 652 8089 BH or (03) 469 4200 AH.

ICOM IC-22A 2 m 1/10 W FM txcvr. Xtals for 7 repeaters and 3 simplex chans. Complete with mic, h'book, mobil mount. As new $150. VK3RN QTHR. Ph: (03) 25 5315.

ICOM IC-22S 2 m FM txcvr. VGC. Together with Scalar maganabase and tuned ⅝ths whip, 2.5 m coax (⅜") $230. Also an 8 el yagi and KLM 13 dB array. Owner intends to QSY HF. Arrays $30 each ONO. Can deliver to Melb. Arthur VK3BJR QTHR. Ph: (054) 43 4544.

ICOM IC-22S 2 m txcvr with 25 kC spacing switching box, h'book and orig carton. EC $200. Paul VK3AJJ. Ph: (03) 481 8587.

ICOM PS-20 switch mode power supply 20 A peak, $180. Daiwa CNW-218 ATU, cross needle operation, rated at 200 W PEP $160. Both as new. Ph: (03) 723 3717 AH.

KENWOOD TS-520S, one owner. Ex cond. H'book, AC/DC operation. Little use, orig packing. On air test. $480 ONO. Ross VK3SR.

KENWOOD TS-520S txcvr with CW filter and spare valves $530. Incl with txcvr, 10 m delta loop in need of repair. Also FTC-707 ATU $130. Ken George VK3DKG QTHR. Ph: (03) 878 7574.

KENWOOD TS-700A 2 m txcvr 144-148 MHz all modes, mic, h'book, AC PSU built in, also runs off 12 V DC. Ex cond $350 ONO. Trevor VK3KEG QTHR. Ph: (03) 789 4911 AH.

MORSE TAPES at 2, 3, 4, 5, 7, 8, 9, 10 WPM inc Dick Smith "word method" set, aviation rating course, DOC exams at 5 & 10 WPM plus practice sending. 20 tapes in all $40. Ken VK3KGX, Box 98A, Melbourne. Ph: (03) 527 9029.

PRINTER — Dot matrix printer Dick Smith GP80 suit system 80, TRS 80 etc. As new $260 ONO. VK3BZC QTHR. Ph: (052) 63 1981.

TOWER 30-35 feet. C/up $150. VS41/80 KR trap vert 80-10 m $50. Plus several long lengths coax, offers. Bruce Kendall VK3WL. Ph: (03) 542 4346 BH or (03) 741 2382.

YAESU LINEAR AMP FL-2000B $325. ICOM IC-701 txcvr with IC-RM3 computerised remote controller, IC-701PS power supply and IC-SM2 desk mic $750. Computer boards $100 Bus Cromenco 8K EPROM board with inbuilt 2708. Programmer new $125. Applied technology DG-640 VDU board $90. VK3ARY. Ph: (03) 277 4798.

YAESU FT-101 early model, GC. Some spares, leads, h'book, few minor mods all documented $350. VK3KBY QTHR or Ph: (03) 347 3619.

YAESU FT-707 with scan mic and match FP-707 20A power supply. All cables, book and workshop manual. Sell together only $650. Geoff VK3DGV QTHR. Ph: (03) 560 3773.

FOR SALE — QLD

COMPUTER. System 80 blue label. 16 k incls games and general software. As new, only 4 mths old $350 ONO. Brian VK4ST. Ph: (071) 91 1172.

EX USN RX AN35B 220-420 MHz. Qty new pwr xfmrs. Ex RAAF 4C x 250 B amp coax anode line suit 2 m. Bird 1000-C plug. MTR30A 2 m txcvr 4 sets xtals. Sockets suit 3-1000 or 2-1000A valves (5 pin giant). STC H/band txcvr factory cond 151 series. Qty pwr t'sistors 420-470 MHz 1 W, 4 W, 10 W, 25 W. Qty pwr t'sistors 50-175 MHz 3 W, 10 W, 25 W. 6/40 base tx & P/s. TY4-500 valves, 6/40 etc. VK4ZJB QTHR. Ph: (07) 269 6647.

MAGAZINES. Complete set of ARs from October 1970. VK4WR QTHR.

YAESU FT-7 ex cond $395. Ph: (075) 43 5418.

FOR SALE — SA

W4KFC 5 el duo band beam. 3 el on 15 m and 3 el on 10 m. 10 m reflector and 15 m director are common and has dual gamma match system. Can be seen working $100. VK5ATU (QTHR VK5NTU). Ph: (08) 258 7020.

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1 a	11 d	21 d	31 d	41 d
2 d	12 b	22 c	32 c	42 a
3 d	13 b	23 b	33 d	43 a
4 d	14 d	24 c	34 b	44 c
5 d	15 c	25 c	35 b	45 d
6 b	16 c	26 d	36 c	46 b
7 a	17 b	27 b	37 c	47 a
8 b	18 b	28 d	38 c	48 d
9 b	19 d	29 a	39 d	49 b
10 b	20 b	30 d	40 b	50 c

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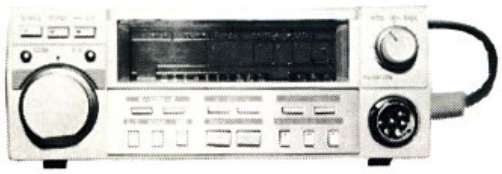

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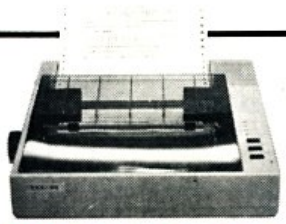

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